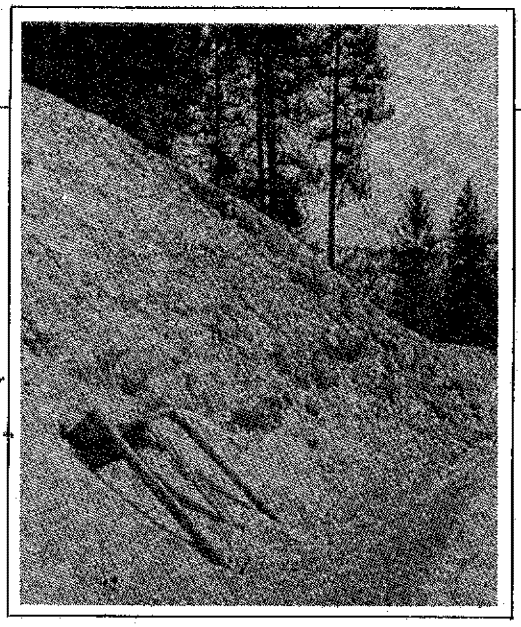

PROJECT COMPLETION REPORT

SEDIMENT YIELD FROM CUT AND FILL SLOPES SILVER CREEK RESEARCH ROAD BOISE NATIONAL FOREST, IDAHO

(Cooperative Agreement INT-80-003-CA)

by
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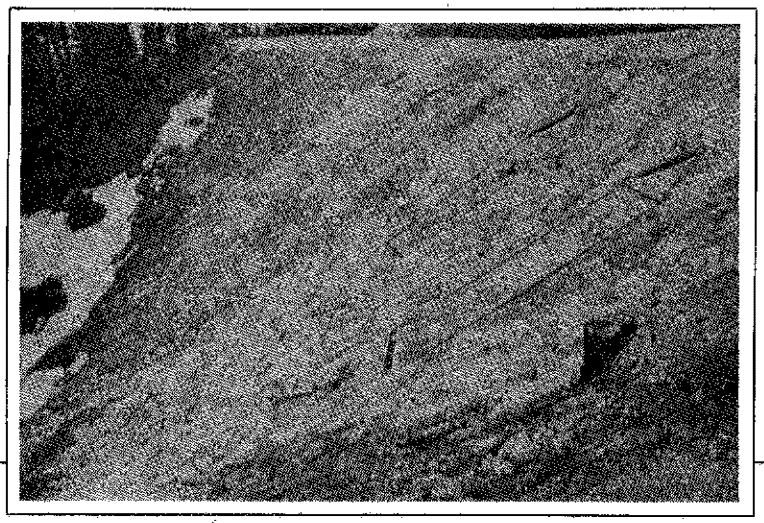

Preface and Acknowledgements

This report presents data and conclusions from a cooperative project between the USDA Forest Service Intermountain Forest and Range Experiment Station, Boise, Idaho and the Department of Geology and Geophysics at Boise State University, Boise, Idaho. Co-Principal Investigators on the project were Monte D. Wilson and Spencer H. Wood. With a single exception everyone employed on the project was either a student or recent graduate of Boise State University.

The Principal Investigators are indebted to the following people for their able field assistance: Richard Brooks, David Matthews, Carl Wirkus, Chuck Troop, Jeff Allred, Tom Rus and Rob Howarth. In addition to their assistance in the field, Joni Hadden, Nicasio Lozano and David Schwarz worked on laboratory analysis, computer processing and interpretation of the data; the Principal Investigators are pleased to acknowledge their important contributions to the project.

The cooperation and assistance of all personnel at the Intermountain Forest and Range Experiment Station, especially Gary Ketcheson and Walt Megahan, is gratefully acknowledged.

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CONCLUSIONS

This report marks the conclusion of a three year study on sediment yield from cut-and-fill-slopes of the Silver Creek research road, Boise National Forest, Idaho. Several distinctive characteristics concerning sediment yield from the various portions of the road prism emerge as being significant in relation to road design and construction methods used in the building of the Silver Creek research road. These general characteristics are listed under their respective headings as follows:

Cut-Slopes

1. Elevation and aspect have little noticeable influence on sediment yield.
2. Contrary to what would be expected, there is no apparent direct relationship between size of sediment source area and amount of sediment yield.
3. Total average sediment yield for the fall collection was two to five times greater than for the spring collection.
4. Excluding the initial collection following construction, the highest sediment yield occurred during the summer-fall period of 1983.
5. Steep slopes produce significantly more sediment than gentle slopes.
6. There is a direct increase in the mean sediment yield and increase in rock weathering from classes 4-6.
7. All fill-slope surface treatment methods yielded considerably less sediment than the nontreated method.
8. Nontreated slope surfaces averaged 15 times as much sediment yield as the dry seeded slopes.

Fill-Slopes

1. Slope aspect and elevation have little significant effect on sediment yield.
2. Sediment yield collected in the fall averaged four to nine times that collected in the spring.

3. Excluding the initial collection following construction, the highest sediment yield occurred from the summer-fall period of 1983.

4. In general, the gentler gradient slopes (1.3:1) yielded almost 50% less sediment than the 1.5:1 slopes.

5. Road construction methods which produced the least sediment yield are controlled compaction, side cast, and layer placed.

6. A 2- to 3-fold increase in total average sediment yield occurred where surface rolling of the fill-slopes was performed in conjunction with road construction methods.

7. Fill-slopes receiving the polymer surface treatment produced the highest average sediment yield, higher than even the control in many cases.

8. Slope surface treatment methods which exhibited the least amount of sediment yield were straw and crimping, straw and crimping and net, straw and crimping and transplant, steep slope planter, and hydro-seed and transplant.

Grain Size Analysis

1. The dominant grain sizes for cut-slopes were between 0.5mm and 2mm.

2. The dominant grain sizes for fill-slopes were between 0.25mm and 1mm.

3. Over the three year period, cut-slopes showed a slight reduction in the percentage of coarse particle size components while fill-slopes showed a slight increase.

INTRODUCTION

Slope instability and resulting sedimentation from road construction have been matters of increasing concern to the Forest Service for many years. Previous studies on steep granitic slopes have shown up to 750-fold increases in sediment yield caused by construction of logging roads (Megahan and Kidd, 1972b, pp. 140-141). These studies point out a definite need for quantification of the amounts and rates of erosion occurring both on roads of different construction and on the various road prism components of a uniformly constructed road.

In the spring of 1980, a cooperative study was initiated by the Boise office of the Intermountain Forest and Range Experimental Station with the Department of Geology and Geophysics, Boise State University. The purpose of the study was to measure and evaluate sediment yield from fill-and-cut-slopes on the Silver Creek research road, located in Township 4N, Ranges 5E-6E, 30 miles N, NE of Crouch, Idaho. This research road starts in the lower Ditch Creek drainage basin, runs through the middle of the No-Name Creek basin, and tops out in the head of the Cabin Creek drainage basin on the watershed divide between Silver Creek and the Middle Fork of the Payette River (see text-fig 1).

The Silver Creek research road was designed and constructed to various specifications so that different segments of the road provided different standards for the control of slope erosion and production of sediment. Six methods of road fill construction along with 21 fill-slope and four cut-slope surface treatment methods were utilized to provide a variety of sediment yield parameters. The following is a synopsis of the

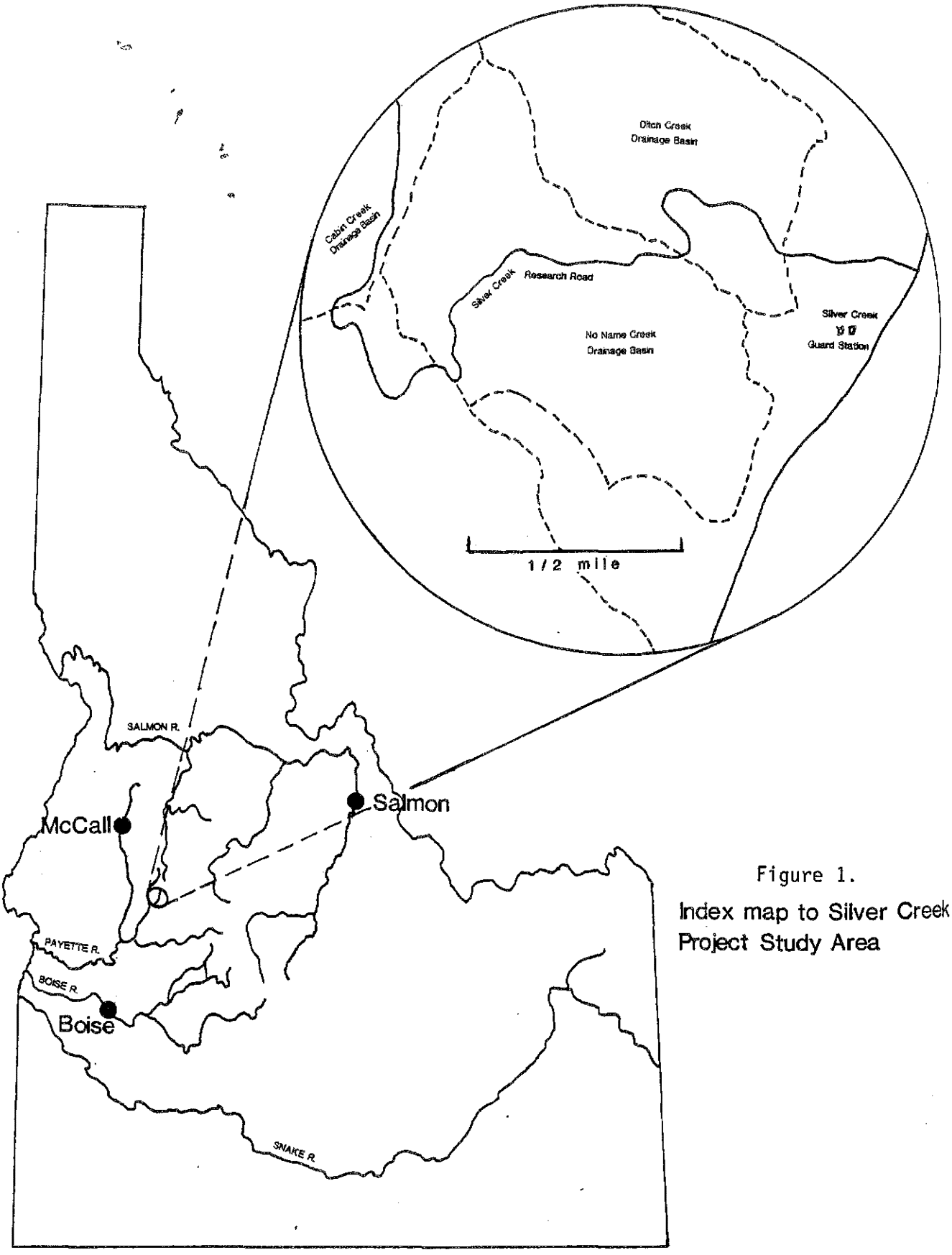


Figure 1.
Index map to Silver Creek Project Study Area

road fill construction and the cut-and-fill-slope treatment methods employed on the research road.

Construction Methods of Road Fills

1. Side Cast. Road fills were placed by side casting directly from the blade of bulldozers or graders, with no compaction efforts.

2. Side Cast and Surface Rolling. In this method, side casting was followed by compaction of the road fill surface with the use of a grid roller.

3. Layer Placed. The road fill was emplaced as a series of individual layers less than 12 inches thick with leveling and smoothing of each layer prior to the subsequent layer being placed. Compaction was obtained as the bulldozers passed over the material during the leveling process.

4. Layer Placed and Surface Rolling. The road fill was built by the layer placed method, then the fill-slope surfaces were grid-roll compacted.

5. Controlled Compaction. The road fill was placed in layers less than 8 inches thick and then compacted by machinery. Watering of the fill material and use of vibratory rollers were necessary to reach the required compaction.

6. Controlled Compaction and Surface Rolling. In this method, the controlled compaction procedure of road fill emplacement was followed by grid-roll compacting of fill-slope surfaces.

Fill-Slope Surface Treatment Methods

Fill portions of the Silver Creek research road were constructed so that each fill-slope surface had a slope ratio (vertical:horizontal) of either 1.3:1 or 1.5:1. In the following descriptions, the number in parenthesis indicates how many erosion plots with sediment catchment troughs were constructed on each type of fill-slope surface treatment.

1. Controlled Compaction (9). No treatment was applied to the fill-slope surface, thereby allowing evaluation of sediment yield from untreated fill-slopes produced by this construction method.

2. Controlled Compaction and Surface Rolling (3). (Same as number 1.)

3. Layer Placed (6). (Same as number 1.)

4. Side Cast (2). (Same as number 1.)

5. Side Cast and Surface Rolling (2). (Same as number 1.)

6. Layer Placed and Surface Rolling (4). (Same as number 1.)

7. Control (9). No fill-slope surface treatment was used; the erosion plots were kept bare by occasional application of herbicide spray to eliminate vegetation.

8. Polymer (4). A treatment method in which an emulsion polymer was sprayed on slopes to bind soil particles together at the surface and thereby inhibit erosion.

9. Hydroseed (3). In this treatment method grass seed mixed with a cellulose fiber emulsion was sprayed onto fill-slopes.

10. Straw and Tackifier (2). For this treatment, straw was placed on the fill-slopes with polymer sprayed on to bind the straw to the slope surface.

11. Straw and Net (3). This treatment consisted of straw placed on the slope surface and held in place by spreading a jute fiber net over it.

12. Straw and Crimp (2). A treatment method consisting of straw spread on the slope surface and partially embedded into the slope by a sheepsfoot roller.

13. Hydromulch (2). In this treatment method, cellulose fibers were mixed with water and sprayed onto the slope surface to help retain moisture and inhibit raindrop impact.

14. Straw and Crimp and Net (1). A combination treatment in which straw was partially embedded into the slope by a sheepsfoot roller, and then a jute fiber net was spread over the slope to hold the straw in place.

15. Steep Slope Planter (2). In this treatment, a mechanical seeder operated by a grade-all from a low-boy trailer was used to seed and fertilize the slope. The apparatus operated by first raking mini-furrows, then dropping seeds and fertilizer, and finally embedding them into the slope by rolling with small mesh drums located at the rear of the seeder.

16. Steep Slope Planter and Transplant (2). A treatment method in which the slope was seeded by the steep slope planter followed by hand planting of one year old nursery stock consisting of wild rose species, ponderosa pine, willow, alder and silver sage.

17. Straw and Tackifier and Transplant (2). A combination slope treatment which used products and methods previously described.

18. Hydroseed and Transplant (3). In this method the slope was sprayed with the seed and mulch emulsion and then planted with shrub and tree species.

19. Straw and Crimp and Transplant (1). A treatment method in which straw was partially embedded in the slope by a sheepsfoot roller followed by transplanting of various shrub and tree species.

20. Sprigging (1). For this treatment, chopped rhyzomes of Louisiana Sage were spread over the fill-slope surface. Some of the ryhzomes were pressed into the fill-slope by hand.

21. Sprigging and Transplant (2). In this slope treatment method, rhyzomes of Louisiana Sage as well as shrub and tree species were planted on the fill-slope.

Cut-Slope Surface Treatment Methods

Lengths of cut-slopes on the Silver Creek research road vary from 10 to over 50 feet, with slope ratios (vertical:horizontal) ranging from 0.95:1 to 1.8:1. Considerable variation exists in rock type, rock weathering, and jointing. In the following descriptions, the number in parenthesis indicates the number of sediment collection troughs constructed on each of the various types of cut-slope surface treatments.

1. Untreated (53). Cut-slope surfaces in this category received no treatment.

2. Dry Seed (13). In this cut-slope treatment method, grass seed was placed on the slope surface.

3. Hydroseed (4). For this treatment, grass seed was mixed with a cellulose fiber emulsion and sprayed onto the cut-slopes.

4. Hydroseed and Terrace (5). During road construction, the cut-slopes were terraced into approximately two feet high by 2 feet wide horizontal benches and then the hydroseed treatment method was applied.

Placement of Sediment Catchment Troughs

In order to compare the actual sediment yield from each type of construction and slope treatment method used on the Silver Creek research

road, a total of 63 erosion plots with sediment troughs was constructed on the fill-slopes and 75 sediment troughs were constructed on the cut-slopes. Each sediment catchment trough was installed so that it intercepted all sediment produced from a specific area of the road prism. Locations for installation of the sediment catchment troughs were selected so that each type of treatment could be evaluated for sediment yield on slopes of varying parameters including steepness, length, and aspect.

METHODS

Construction of Erosion Plots and Sediment Collection Troughs

The first group of erosion plots and sediment collection troughs was constructed and installed between October 15 and November 21 of 1980. During this period, 31 fill-slope plots and troughs, and 27 cut-slope troughs were built. Four of those fill-slope plots and troughs were destroyed by severe erosion or shallow slope failures which occurred during early spring snowmelt of 1981. The 27 cut-slope troughs withstood the spring runoff with none being displaced from their original locations. (See labeled photos, Fig. 2, p. 14)

The second group of plots and troughs was built and installed between May and the end of July, 1981. During this period an additional 36 fill-slope plots and troughs along with 48 cut-slope troughs were built. The majority of plots and troughs constructed in the previous autumn needed minor modification or repair. In all, 63 fill-slope plots and troughs, and 75 cut-slope troughs were built to measure the actual slope erosion. Unfortunately, five of the fill-slope plots and troughs were completely destroyed during the spring snowmelt of 1982 because of a large-scale slope failure, which necessitated re-building the road fill-slope where they had been installed.

Construction of Cut-Slope Sediment Collection Troughs

Materials used in construction of the cut-slope sediment collection troughs included the following: expanded metal, ¼" hardware "cloth," canvas, black plastic, 1¼" diameter steel reinforcement bars, and 2"x4" lumber. These materials were assembled in the following order:

1. Steel reinforcement bars of 1¼" diameter were precut to two foot lengths and pointed at one end by a sheet metal shop. Two of these bars were used for each sediment trough. They were driven into the bedrock with a sledge hammer until they were secure enough to hold the expanded metal trough and its estimated sediment load. In places of relatively fresh, unweathered bedrock, star drills were used, but driving the steel bars was still difficult.

2. Once the reinforcement bars were driven into the bedrock, a black plastic sheet was placed on the cut-slope surface to provide a water barrier. This barrier prevented water erosion from undercutting the trough; it thereby lessened the chances of trough collapse while increasing the chances of catching all sediment moving down the slope.

3. A canvas lining was sewn and folded into the expanded metal trough. The canvas served to retain the sediment in the trough while allowing water to drain through.

4. The expanded metal trough was placed on the reinforcement bars, aligned flush against the cut-slope surface, and secured to the reinforcement bars with steel wire.

5. A 48 inch long by six inch or 12 inch wide piece of ¼ inch mesh "hardware cloth" was nailed into the bedrock directly onto the black plastic, so that it was lying on the cut-slope face immediately above the edge of the sediment trough. The purpose of the "hardware cloth" was to mark the base of the cut-slope leading into the sediment trough so that sediment collections would be done without digging into the slope.

6. After reinforcement bars, plastic, canvas, expanded metal, and mesh wire were in place, a support was built using 2"x4" lumber. The supporting 2x4's leaned against the reinforcement bars and were nailed to the overlying expanded metal trough which they supported. Stakes and/or reinforcement bars at the base of each 2"x4" support were used to hold the bottom of the trough from slipping or moving away from its original position. These structures functioned to support both the snow and sediment loads which accumulated in the troughs.

7. If the contact between the expanded metal and the slope surface was not well sealed, a cement or liquid plastic was poured into the openings to seal them and thereby avoid any sediment loss from the troughs.

8. Finally, each trough was numbered with an aluminum plate showing the construction station numbers, followed by the distance in feet from the closest visible road survey station stake.

Cut-slope erosion plot lengths were determined by measuring from the top of the sediment collector to the top of the cut-slope. Cut-

slope length varies from plot to plot, but the width is a uniform four feet.

Construction of Fill-Slope Erosion Plots and Sediment Collection Troughs

A wooden sediment collection trough was built for each fill-slope erosion plot. The troughs were built with number 2 grade, 1"x6" finished pine lumber. Dimensions of the troughs are 6 feet long, 6 inches wide, and 6 inches high. The troughs were assembled in the following order:

1. The pine was cut to the desired lengths.
2. Glue was applied along the edges of the boards, and they were joined and secured with nails.
3. A ½ inch diameter hole was drilled at each end of every trough to drain water. A one mm. mesh screen was nailed over the outside of the drill holes and a small sponge was placed into each hole. These holes, with the sponges and mesh wire, allowed water to drain while the sediment was retained in the troughs.

All of the fill-slope erosion plots were constructed with an area of 90 square feet. The materials used to build each 15' by 6' erosion plot were:

A. Two pieces of 16'x1"x8" unfinished lumber for the two sides of the plot;
B. One piece of 6'x1"x8" board as a cross board for the top of the plot;
C. Two pieces of 5'x1'x8" boards for the "nose" of the plot frame;
D. 12, 2"x2"x36" support stakes;
E. One 6' long by 1' wide deflector plate (stamped from galvanized sheet metal at a metal shop).
F. One of the previously described wooden collection troughs to trap sediment at the lower end of the plot.

These materials were assembled in the following order:

1. Support stakes were driven into the ground where research study stakes had been placed. A 6' long, 6" deep, 4" wide trench was dug to emplace the board across the fill-slope at the upper boundary of the plot. This board was attached to the stakes with screws.

2. Two 16' long, by 6" deep, and 4" wide parallel trenches were dug down the fill-slope to hold the side boards. Each of these boards was then attached by wood screws to four stakes.

3. Another two trenches were dug to place the nose boards above the erosion plot. Both nose boards were bolted to a stake at the top and their lower ends were screwed into the boards across the upper limit of the plot. These "nose" boards served to deflect rolling material so it did not damage or roll into the enclosed study plot.

4. At the bottom of the plot the collector trough was placed in a level floored trench, 6' long and 6" wide. The upper edge of the trough was placed on the level of the fill-slope, and bolted to the side boards. Support stakes were then driven into the ground on the downslope side of the trough to prevent overturning and downward sliding in response to sediment and/or snow loading.

5. A galvanized deflector plate was nailed to the upper side of the trough, functioning to protect the contact of the upper side of the trough with the slope and also to prevent piping and caving of soil by runoff from the upper part of the erosion plot.

6. After the entire structure was secured, all disturbed soil was placed back into the trenches and compacted with a sledge hammer.

7. The fill-slope trough was numbered with aluminum plates showing the construction station number, followed by the distance in feet from the closest visible road survey station marker.

Sediment Analysis Methods

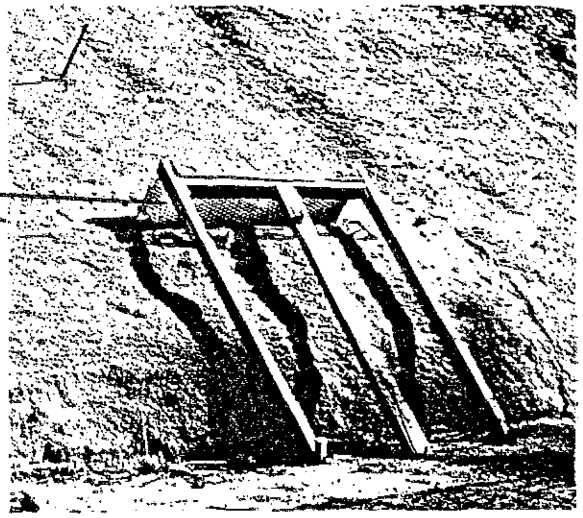
Sediment analysis proceeded in the following order:

1. Damp sediment collected from each plot was weighed and the volume was determined by using calibrated buckets.

2. The larger sediment samples were split using 2 sizes of splitters until a sample weighing approximately 1 kilogram was obtained for possible sieve analysis.

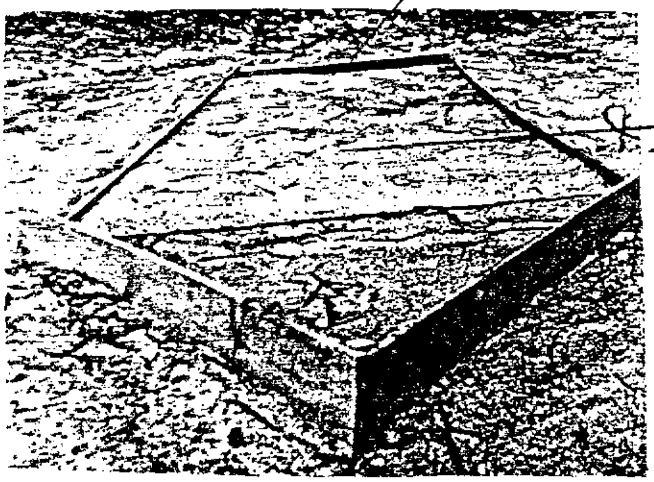
3. All sieve samples were oven dried at 82°C for six hours to remove moisture. These samples were then reweighed to determine moisture content and compute dry weight of the total sediment collected.

4. Selected split and dried samples were then sieved for grain size analysis using a Tyler mechanical shaker for 10 minutes. Sieves used are of 4.75, 2, 1, 0.5, 0.25, 0.125, and 0.063 mm. screen size openings. Each sieve-size fraction was then weighed separately and recorded.



Cut-Slope Sediment

Collection Trough



Fill-Slope Erosion Plot With Its

Sediment Collection Trough

Fig.2

DATA ANALYSIS AND INTERPRETATION

Sediment yield data collected from the Silver Creek research road was listed by sediment collection trough number and converted from kilograms per square foot per interval of days to metric tons per hectacre per year with the use of a FORTRAN program written by Nicasio Lozano (see Appendix, pp. A1-A72). Computer-generated graphs plotted sediment yield in tons per acre per year against the various parameters of road construction and slope surface treatment methods. The format of the grain-size analysis data necessitated the hand drafting of some of those graphs.

Cut-Slopes

Variables in the rate of sediment production from the cut-slopes are elevation, sediment source area, aspect, time of year, slope gradient, rock weathering class, and slope surface treatment methods.

Meteorological information, which is obviously a major influence in sediment yield from disturbed slopes, is not being incorporated into this interpretation of our data. Precipitation data and other meteorological information which were collected during the time of this field study must be related to these sediment yield data before any final evaluation can be made.

Elevation

Variation in elevation appears to have little, if any, affect on sediment yield from cut-slopes having similar parameters such as slope surface treatment methods and rock weathering classification. The

majority of sediment troughs on comparable slopes were within 180 feet in elevation variation of one another. This small divergence in elevation appeared to have negligable influence on sediment yield, as illustrated by comparing sediment yields from collection troughs 53+30/33C to 78+26/97C, and 59+91/34C to 75+36/18C (Appendix, pp. A13, A32, A17, A31).

Slope Aspect

The total average sediment yield in tons per acre per year for each cut-slope sediment collector trough was plotted by aspect on a rose diagram (fig. 3, p. 26). Only the cut-slopes with no slope surface treatment method were considered, and this data was tabulated into Table 1, (p.27). The largest sediment yields, ranging from 12.8 to 58.8 tons per acre per year were recorded in the S.E. quadrant. The least amounts, 7.4 to 10.9 tons per acre per year, were mostly in the N.E. quadrant. Slopes with a southern exposure may be more subject to freeze-thaw effects than comparable slopes having a northern exposure. Unfortunately, there were no north-facing cut-slopes available for comparison.

Sediment Source Area

Sediment intercepted by each four foot wide cut-slope collection trough was derived from an area extending from the sediment trough, located about three feet upslope from the roadbed, to the top of the cut-slope bank. These source areas for sediments derived from cut-slopes ranged from 38 to 208 square feet in size. Scatter diagrams depicting sediment yield versus area for each of the four slope surface treatment methods show no discernable trends (refer to fig. 4-7, pp.30-31).

This lack of an apparent relationship between size of the cut-slope sediment source area and the amount of sediment yielded is contrary to what would be expected. It may be that the intuitive direct relationship does exist but is obscured by the effects of other variables such as rock weathering, diversion of surface runoff on or off the area, or groundwater seepage.

Time of Year

Sediment collection troughs were emptied twice yearly. The spring collection consisted of the sediment yielded during the fall through winter period, while the fall collection comprised the spring through summer period. In general, the sediment yield for the fall collection was 2 to 5 times as much as that for the spring collection. The exception to this trend occurred only for the first fall collection following sediment trough construction during the summer. First collection sediment yields as great as 150 tons per acre per year were recorded on some cut-slopes. Though extreme, these initially large sediment yields can be expected from the newly disturbed slopes.

An example of these and other trends is shown by the bar graph for sediment collection trough number 57+75/132C (see fig.8, p.32). The initial emptying following construction (spring, 1981) was 147 tons per acre per year; subsequent collections then leveled out to under 40 tons per acre per year until the fall, 1983 emptying which jumped to 78.9 tons per acre per year. Similar sediment yield patterns were observed for many of the other cut-slope sediment troughs, such as number 62+03/87C which, in the fall, 1983 collection comprised a 45-fold increase over the previous fall collections (see bar graphs, pp. 32-35).

Increased sediment yield during summer is probably due primarly to storms when impacting raindrops move individual particles down the slope surface. During periods of dry weather in the summer months, the wind also has an effect on erosion. Yearly fluctuations between the spring through summer sediment yields are probably tied to major storm occurrences. Hydrologic data was not available for this analysis but one can speculate (with some degree of confidence) that the tremendous increase in the fall, 1983 sediment collection correlates to an intense storm season during the preceeding summer.

Slope Gradient

Cut-slope gradients (vertical:horizontal) ranged from 0.95:1 to 1.66:1. To perform a valid analysis on the effect that slope gradient has on erosion, only those sediment troughs located on non-treated cut-slope surfaces within rock weathering class 6 were evaluated. This group of 40 sediment troughs was located on slope gradients ranging from 0.95:1 to 1.51:1, with a mean for this group of 1.11:1. Four arbitrary divisions of slope gradients were selected, based mostly on number of sediment troughs per set. The mean of the total three year average sediment yield for each set of slope gradients was plotted. The resulting graph indicates a noticeable increase for the mean sediment yield occurring from steeper gradient slopes (see fig. 16, p. 36).

Rock Weathering Class

The sediment source area directly above each sediment collection trough on the cut-slopes was examined and assigned Bedrock Weathering Classifications according to criteria established by Clayton and Arnold (1972). The number of sediment collection troughs located within each

weathering class is as follows: Class 4 = 7 troughs; Class 5 = 8 troughs; Class 6 = 54 troughs; and class 7 = 4 troughs.

To isolate the effects of rock weathering on sediment yield, this discussion deals primarly with yield from the 52 sediment troughs located on non-treated cut-slopes. The mean of the total average sediment yield for each rock weathering class was plotted (see fig.17,p.36). The results show a direct increase in sediment yield when compared to increases in rock weathering from Classes 4 through 6. This is followed by a decrease in sediment yield for rock weathering Class 7. The small number of sediment troughs on cut-slopes of rock weathering Class 7 may limit the validity of their mean sediment yield as representative for all such cut-slopes.

Another similar graph was constructed for the mean of sediment yield by rock weathering class for all cut-slope sediment collection troughs, regardless of slope-surface treatment (see fig.18,p.37). Again, there is an increase in sediment yield with increased rock weathering, except for Class 7. It is speculated that the lower sediment yield recorded for weathering Class 7 slopes may be attributed to greater amounts of clay minerals present in the more weathered material. Slopes cut in materials with a high content of clay minerals may absorb greater amounts of moisture than less weathered slopes and therefore yield less sediment unless saturation is reached and mass failure occurs.

Slope Surface Treatment Methods

Cut-slope surface treatment methods and the number of sediment collector troughs located on each type of treatment are as follows: dry seeded (13), hydroseeded (4), hydroseeded and terrace (5), and

no treatment (53). The mean of the average spring sediment yield and the mean of the average fall sediment yield for each sediment trough within each slope surface treatment method was plotted on a single graph (see fig.19,p.37). The results indicate that all of the treatment methods yielded considerably less sediment than the no-treatment method. The nontreated slopes averaged 15 times as much sediment yield as the dry seeded slopes.

When comparing the three actual treatment methods, dry seeding appears to be most effective in inhibiting slope erosion, but the limited number of sediment collection troughs on both the hydroseeded and the hydroseeded and terraced slopes probably biases the data in favor of dry seeding with its more numerous sediment troughs. Also, the majority of sediment produced from the hydroseed and terraced slopes never reaches the road surface but accumulates on the next lower terrace of the cut-slope.

Fill Slopes

Measurable variables affecting sediment yield from the fill-slopes include aspect, elevation, time of year, slope gradient, road construction methods, and slope surface treatment methods. Meteorological factors such as total amount and intensity of precipitation, are recognized to be important, but they are part of a separate study so are not considered in this report except indirectly, as they are obviously related to the time of year.

In the spring of 1982, a mass failure of a road fill-slope destroyed four fill-slope erosion plots as well as their sediment collection troughs. On another fill-slope, minor slumping destroyed another plot and sediment

trough. It was impractical to rebuild these five plots and troughs because of the fill reconstruction and various slope surface treatment methods used in these areas.

Slope Aspect

The numerous variables affecting sediment yield from the fill-slopes made analysis of slope aspect complex. Erosion plots with their sediment catchment troughs were divided, for purposes of this analysis, into two groups based on the slope gradients of either 1.5:1 or 1.3:1. Average total sediment yield of each slope gradient group was plotted separately on a rose diagram by aspect. Data are listed in Table 3, p.38, and Table 4, p.41.

The 1.5:1 slope gradient group had greater sediment yields from those fill-slopes oriented toward the S.E. and S.W. quadrants (fig.20, p.26). This may be because slopes with a southern exposure are more susceptible to freeze-thaw effects than slopes with northern exposure.

The 1.3:1 slope gradient group produced the largest sediment yields from fills sloping toward the N.E. quadrant (fig.21, p.26). This conflicts with the explanation given for the 1.5:1 gradient group, and tends to support the idea that while sediment yield from road fill-slopes is probably slightly affected by aspect, there are numerous other factors of greater significance.

Elevation

The elevation of fill-slopes made no noticeable difference in sediment yield where all other factors affecting erosion were equal. For example, sediment collection troughs 47+50/34FT (p.A43) and 122+71/65F

(p. A69) have identical slope gradient, road construction method and slope surface treatment. These erosion plots with their sediment troughs differ by 500 feet of elevation, yet show no significant differences in sediment yield. A much greater difference in elevation between otherwise equal road fills might produce important differences in sediment yield resulting from different climatic and biological factors.

Time of Year

Sediment collection troughs were emptied twice yearly. The spring collection consisted of the sediment yielded during the fall through winter period, while the fall collection included sediment from the spring through summer interval. Sediment yield collected in the fall averaged 4 to 9 times more than that collected in the spring. As with the cut-slopes, the exception to this trend was recorded for the fall, 1981 collection which followed construction of the sediment erosion plots and sediment collection troughs. The excessive yield experienced at this time can be attributed to the initially unstable nature of the fill-slope material, with much of the erosion occurring during summer and fall rains and snowmelt that preceeded the winter freeze.

During the three year study there were sporadic incidents of increased sediment yield on some of the erosion plots. However, the fall, 1983 collection showed that almost all sediment yields for that summer and fall were greater than those for previous time intervals (see bar graphs, pp. 42-46). Without hydrologic data, it can only be assumed that this increase in sediment yield was caused primarily by severe storms during the summer and fall of 1983.

Slope Gradient

Each fill-slope was initially constructed with a gradient (rise: run) of either 1.5:1 or 1.3:1. Fig.32, p. 47 is a bar graph showing average spring and fall sediment yield from 9 erosion plots of 1.5:1 or 1.3:1 slope. None of these nine erosion plots received slope surface treatment and all are located on road fills constructed by controlled compaction. In general, the gentler gradient slopes (1.3:1) yielded almost 50% less sediment than the 1.5:1 slopes. Only sediment collection trough number 73+5/144F (graph X axis #4) averaged less sediment yield from the steeper slope. These data confirm the expected relationship, namely that steep slopes, in general, yield more sediment than gentle slopes.

Road Construction Methods

The sediment yields for fill-slopes based solely on road construction methods are somewhat variable. Even within road fills constructed by the same method, sediment yield was inconsistent. The most obvious example of this unexplainable variability is shown by histogram 33, p. 47. All data used for this graph are from erosion plots and sediment collectors located on 1.5:1 gradient slopes with the control slope treatment method. Bar columns 2-6 depict spring and fall average sediment yield for the layer placed road construction method. Depsite all these similarities, total average sediment yield ranged from less than four tons per acre per year to over 140 tons per acre per year within erosion plots located on road fills constructed by the layer placed method. This wide range in sediment yield from road fills constructed by the same method suggests that other factors influence stability of fill-slopes. It seems likely

that the different materials used in construction (i.e. fill derived from bedrock of different weathering classes) and the different details of construction (i.e. placing layers on rainy as compared to dry days or in freezing as compared to thawing days) may have had a significant influence on fill-slope stability.

Three road construction methods with two erosion plots each which produced total average sediment yields of 5.5 tons per acre per year or less are controlled compaction, side cast, and the previously mentioned layer placed (refer to figs. 32 & 34, pp. 47-48). The road construction methods which consistently produced low sediment yield from fill-slopes are controlled compaction and side cast.

Interestingly, when surface rolling of the fill-slopes was performed in conjunction with road construction methods, a 2- to 3-fold increase in total average sediment yield was recorded. This increase in sediment yield of rolled surfaces was noted for side cast versus side cast and surface rolling, and also for layer placed versus layer placed and surface rolling (figs. 34-35, p. 48). The basis for increased sediment yield caused by surface rolling may be that compaction of the slope surfaces also causes a decrease in surface permeability. If this is, in fact, the case, it could cause a decrease of infiltration into the slope and a resultant increase in runnoff which would, in turn, cause a direct increase in the rate of erosion.

Very similar sediment yields were produced by layer placed fills with slope surface treatments and controlled compaction fills with the same slope surface treatments (refer to figs. 36-37, p. 49).

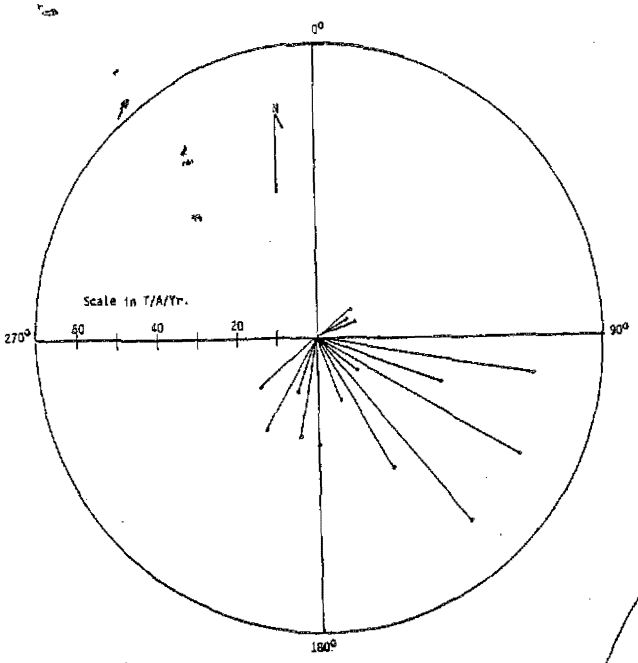
Slope Surface Treatment Methods

In general, all but one type of road fill-slope surface treatment substantially reduced erosion in comparison to the untreated control erosion plots. In four Forest Service designated study groups, those erosion plots receiving the polymer slope surface treatment recorded the highest average sediment yield when compared with the control (fig. 38-41, pp. 50-51). The polymer fluid intially formed a crust in combination with particulate matter on the slope surface. This crust was subsequently affected by freeze-thaw and dessication cracking and allowed rills and gullys to form easily and thereby increase sediment yield.

Slope surface treatment methods which exhibited the least amount of sediment yield (total average less than 0.5 tons per acre per year) include straw and crimping, straw and crimping and net, straw and crimping and transplant, steep slope planter, and hydroseed and transplant (figs. 42, 45, pp. 52-53). The data clearly show that all of these slope surface treatment methods were very effective at limiting sediment yield. Lack of replications prohibits meaningful hierarchical ordering of this least yield group. It should be noted that three of these five effective treatment methods used straw that was crimped into the slope surface to inhibit erosion.

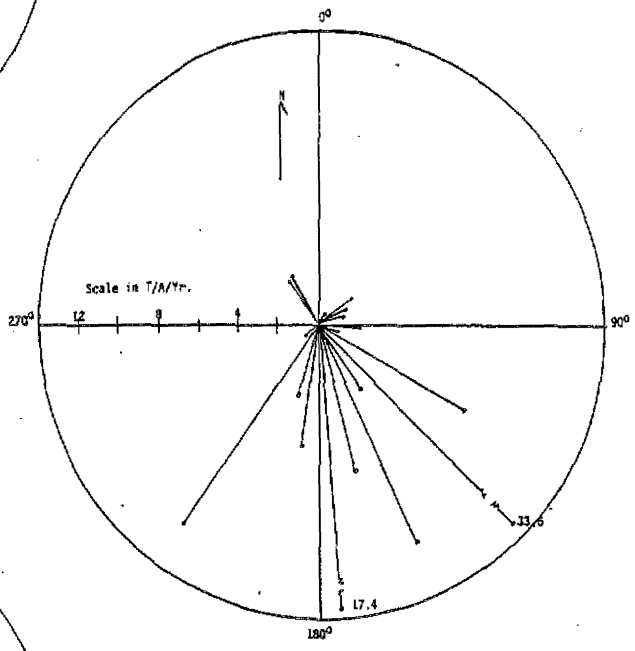
Slope surface treatment methods which, although not so effective as the above group, still significantly limited erosion (total average less than 2 tons per acre per year) include hydromulch, sprigging and transplant, hydroseed and transplant, steep slope planter and transplant, straw and tackifier, and straw and net.

Slope Aspect vs. Average Total Sediment Yield



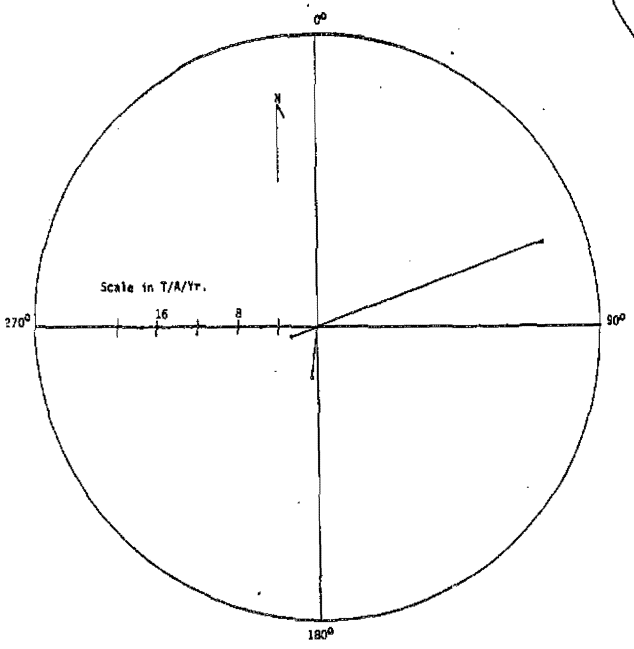
Cut Slopes:
No Treatment

Fig.3



Fill Slopes:
Angle 1.5:1

Fig.20



Fill Slopes:
Angle 1.3:1

Fig.21

Cut Slopes: No Treatment

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
52°	80+57/13C	10.92	10.9
60	47+31/75C	12.735	
60	72+69/15c	5.349	7.4
60	72+69/4C	4.087	
70	72+45/43C	9.52	9.52
90	47+31/40C	21.5458	15.7
90	73+67/45C	9.827	
100	57+75/195C	53.7	
100	57+75/57C	86.199	
100	59+91/7C	28.869	
100	62+03/21C	5.08	
100	70+51/21C	.8615	54.2
100	75+36/48C	106.026	
100	75+36/18C	80.49	
101	78+26/76C	72.588	
108	78+26/97C	57.56	
110	49+26/108C	4.055	
110	53+30/33C	58.887	
110	59+91/106C	12.57	
110	59+91/85C	25.158	
110	59+91/34C	74.11	33
110	70+51/42C	3.63	
110	78+26/40C	28.65	

Table 1

Cut Slopes: No Treatment

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
120°	57+75/234C	93.36	58.2
120	70+12/42C	23.01	
130	70+12/68C	12.76	12.8
140	57+75/250C	58.856	58.8
150	68+78/25C	2.13	20.7
150	57+75/271C	61.517	
150	68+78/102C	16.52	
150	68+78/38C	2.655	
160	68+78/84C	16.35	16.4
180	53+30/99C	41.06	26
180	53+30/75C	43.248	
180	53+30/63C	40.415	
180	57+75/132C	52.636	
180	62+03/138C	6.14	
180	62+03/126C	3.71	
180	62+03/87C	9.711	
180	62+03/-6C	2.3	
180	64+34/117C	8.37	
180	64+34/90C	45.87	
180	64+34/63C	39.399	
180	64+34/24C	9.8	
180	65+84/62C	35.43	
190	65+84/52C	18.26	25.3
190	65+84/25C	32.41	

Table 1(cont.)

Cut Slopes: No Treatment

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
200°	65+84/-8C	14.26	14.26
210	49+26/60C	2.55	26.58
210	50+31/10C	38.589	
210	52+19/130C	29.095	
210	52+19/50C	36.098	
230	49+26/18C	19.348	19.3

Table 1(cont.)

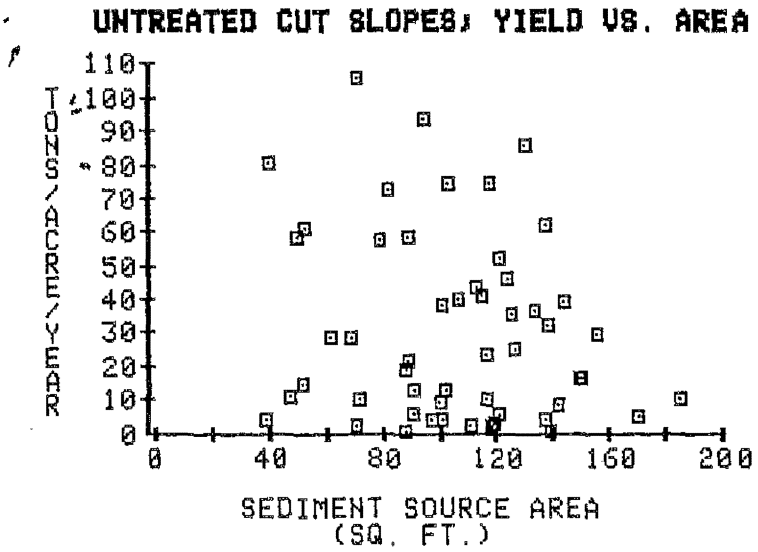

UNTREATED CUT SLOPES; YIELD VS. AREA
TONS/ACRE/YEAR
110
100
90
80
70
60
50
40
30
20
10
0
0
40
80
120
160
200
SEDIMENT SOURCE AREA
(SQ. FT.)

Fig.4

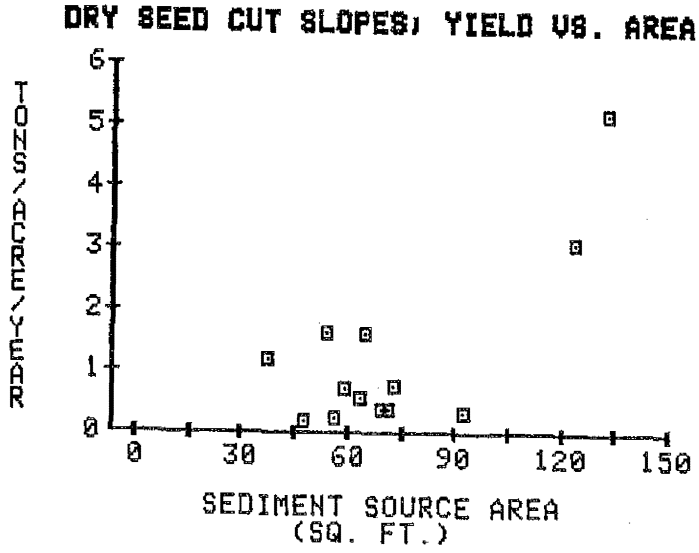

DRY SEED CUT SLOPES; YIELD VS. AREA
TONS/ACRE/YEAR
6
5
4
3
2
1
0
0
30
60
90
120
150
SEDIMENT SOURCE AREA
(SQ. FT.)

Fig.5

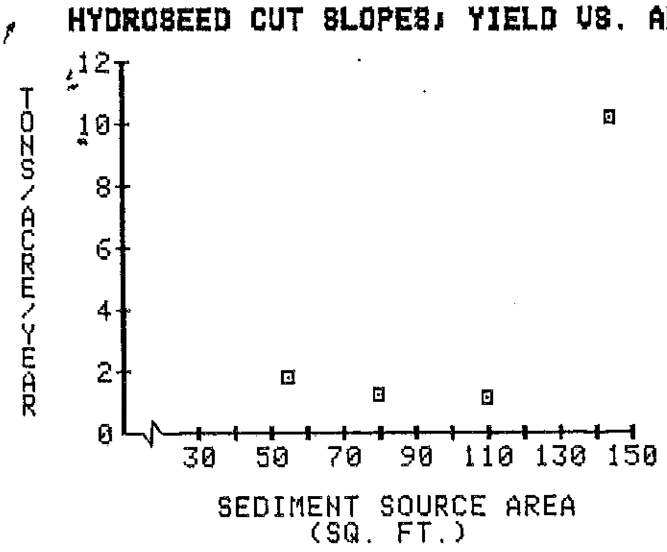

HYDROSEED CUT SLOPES; YIELD VS. AREA
TONS/ACRE/YEAR
0
2
4
6
8
10
12
30
50
70
90
110
130
150
SEDIMENT SOURCE AREA
(SQ. FT.)

Fig.6

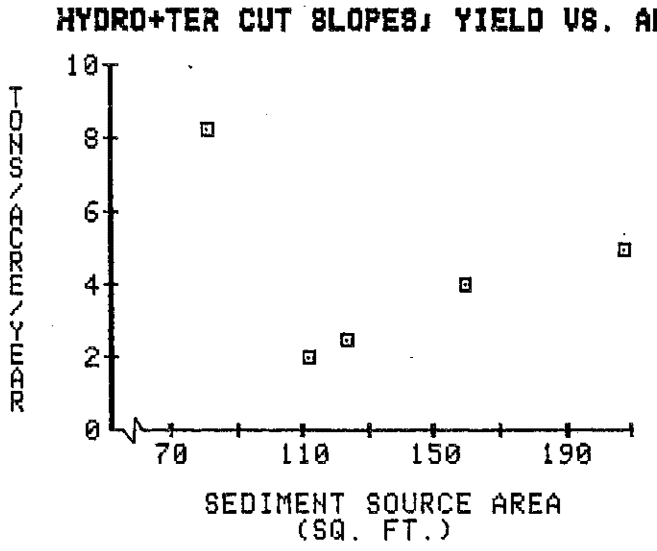

HYDRO+TER CUT SLOPES; YIELD VS. AREA
TONS/ACRE/YEAR
0
2
4
6
8
10
70
110
150
190
SEDIMENT SOURCE AREA
(SQ. FT.)

Fig.7

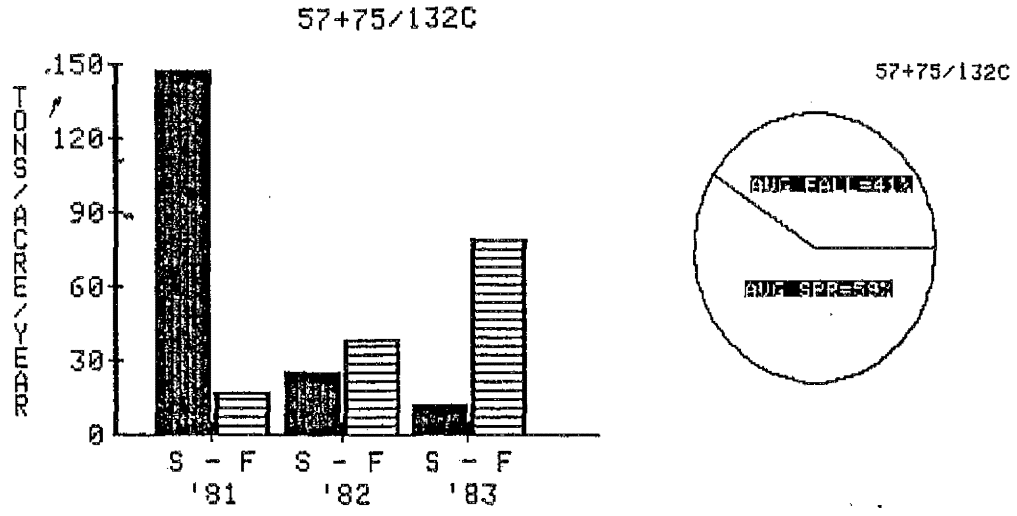

57+75/132C
TONS/ACRE/YEAR
150
120
90
60
30
0
S - F
'81
S - F
'82
S - F
'83
57+75/132C

Fig.8

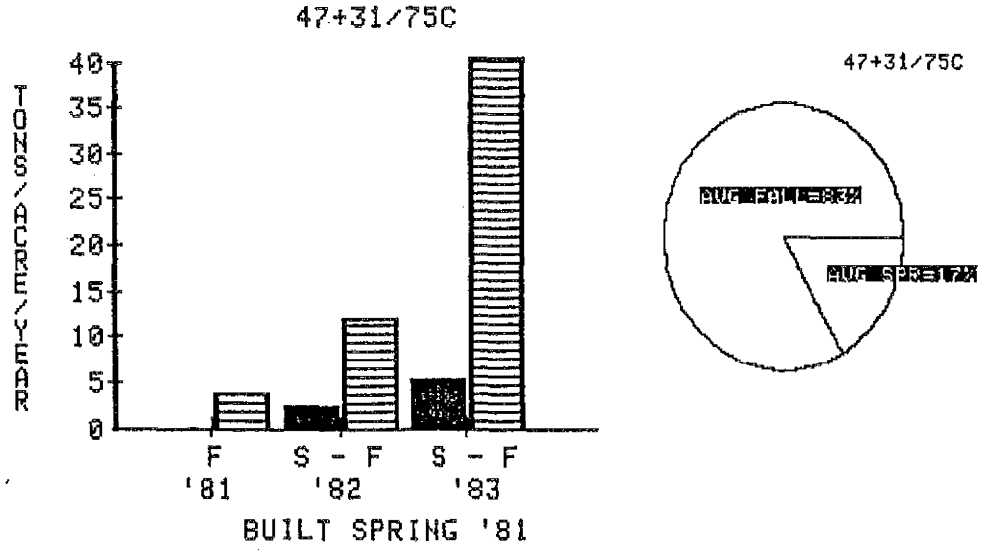

47+31/75C
TONS/ACRE/YEAR
40
35
30
25
20
15
10
5
0
F
'81
S - F
'82
S - F
'83
BUILT SPRING '81
47+31/75C

Fig.9

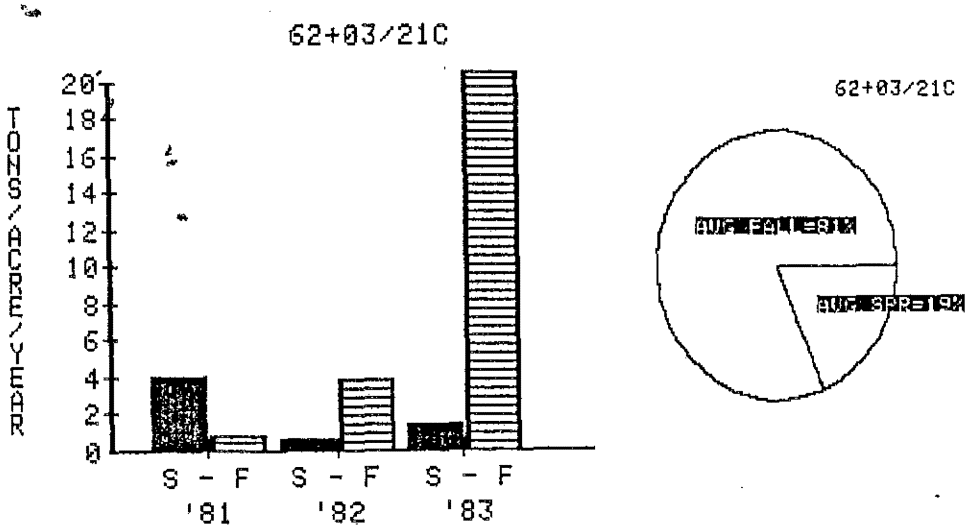

62+03/21C
TONS/ACRE/YEAR
20
18
16
14
12
10
8
6
4
2
0
S - F
'81
S - F
'82
S - F
'83
62+03/21C

Fig.10

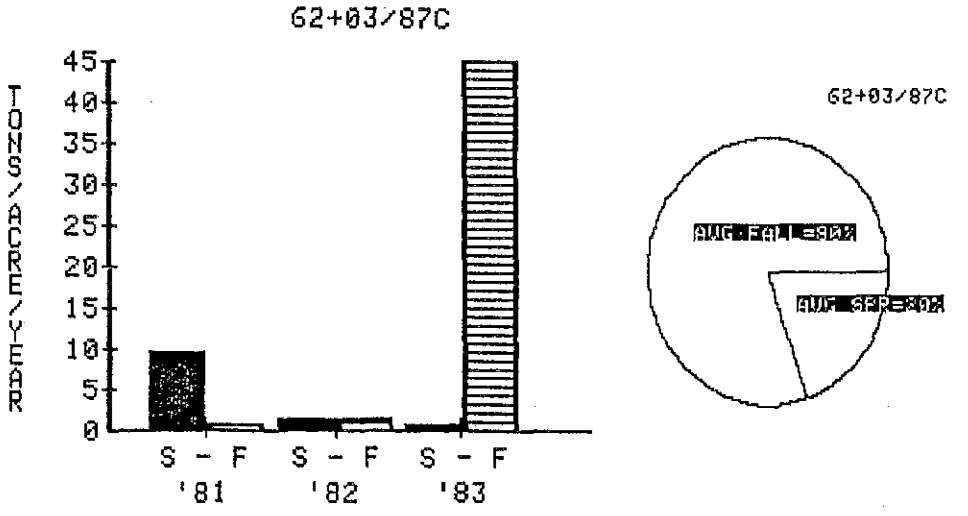

62+03/87C
TONS/ACRE/YEAR
45
40
35
30
25
20
15
10
5
0
S - F
'81
S - F
'82
S - F
'83
62+03/87C

Fig.11

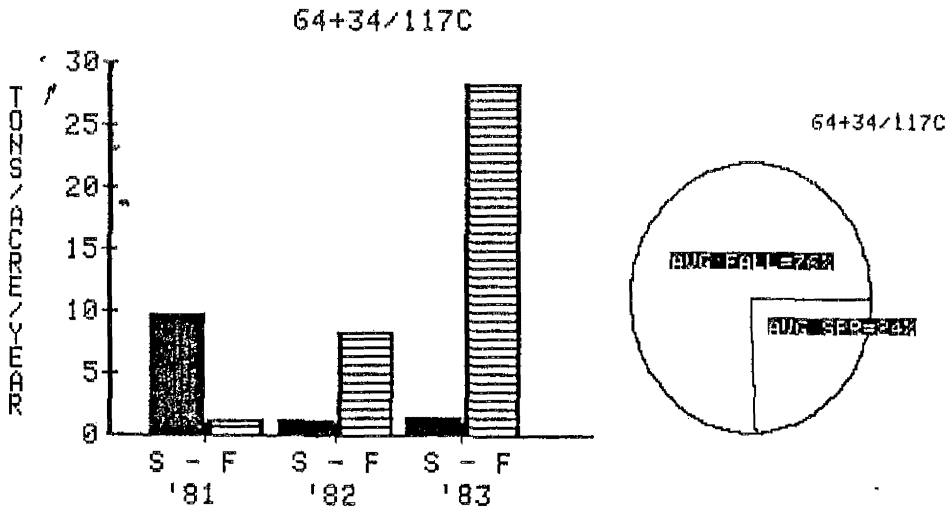

64+34/117C
TONS/ACRE/YEAR
30
25
20
15
10
5
0
S - F
'81
S - F
'82
S - F
'83
64+34/117C

Fig.12

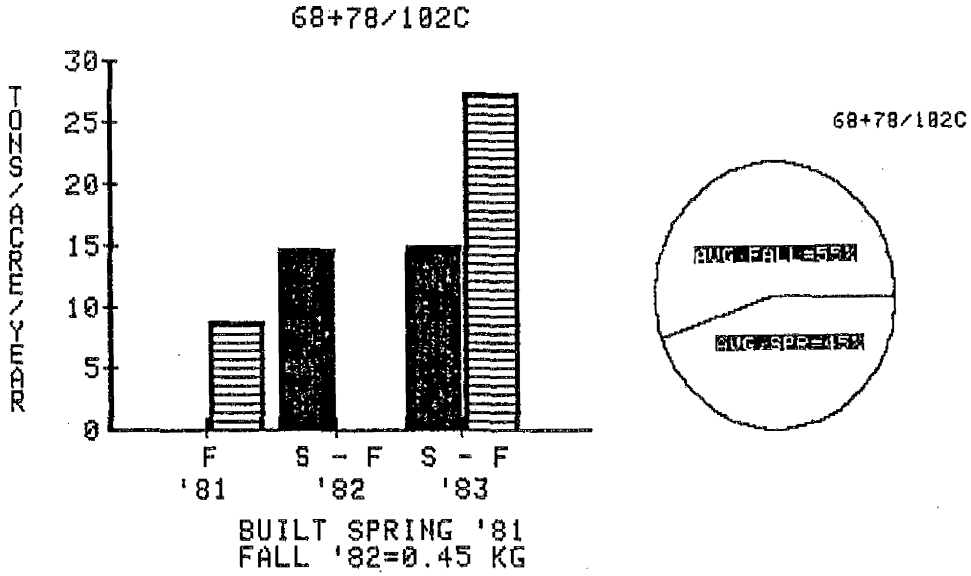

68+78/102C
TONS/ACRE/YEAR
30
25
20
15
10
5
0
F
'81
S - F
'82
S - F
'83
BUILT SPRING '81
FALL '82=0.45 KG
68+78/102C

Fig.13

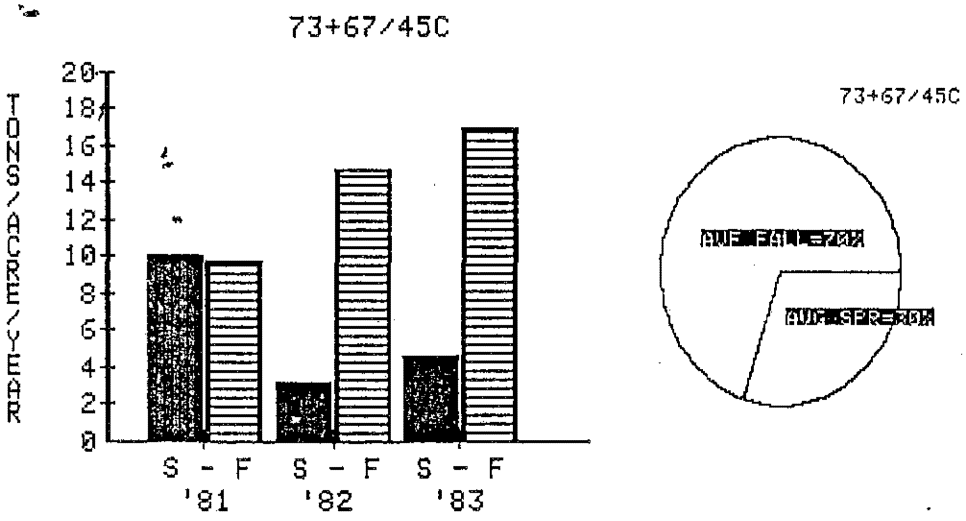

73+67/45C
TONS/ACRE/YEAR
20
18
16
14
12
10
8
6
4
2
0
S - F
'81
S - F
'82
S - F
'83
73+67/45C

Fig.14

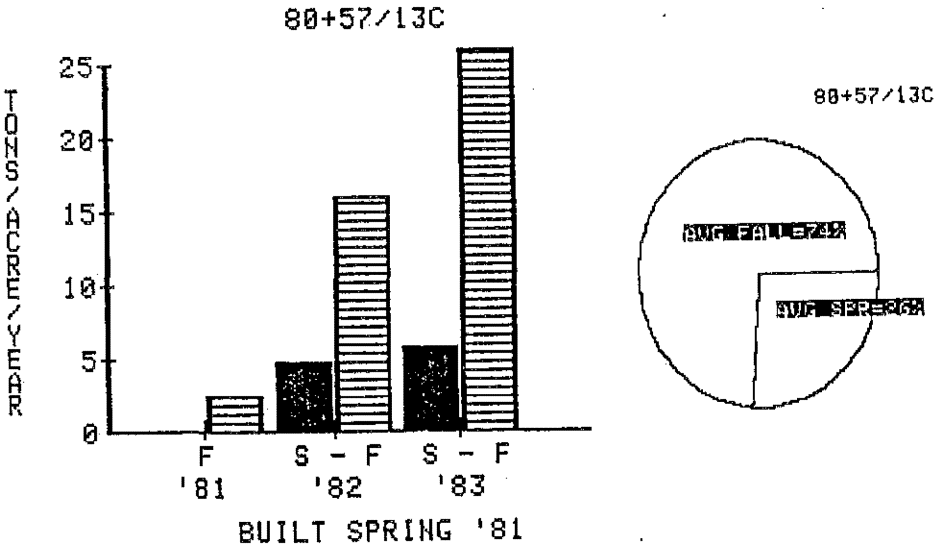

80+57/13C
TONS/ACRE/YEAR
25
20
15
10
5
0
F
'81
S - F
'82
S - F
'83
BUILT SPRING '81
80+57/13C

Fig.15

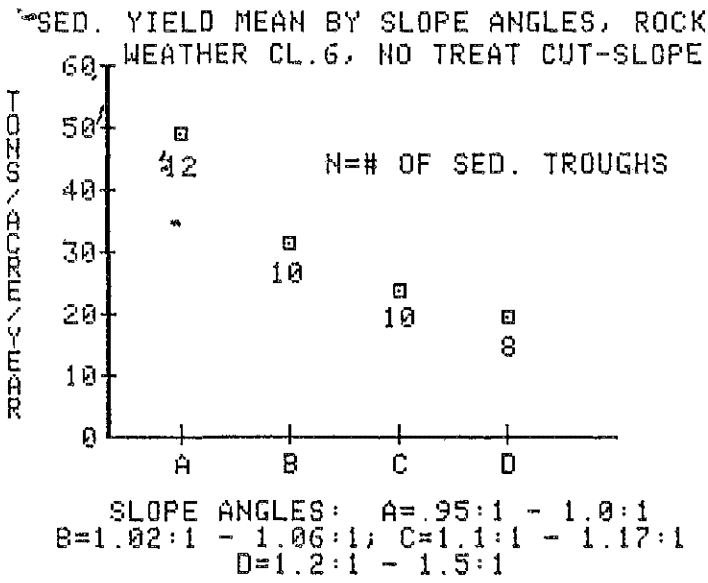


Fig.16

.95:1 - 1.0:1

COUNT	12
MINIMUM	9.5
MAXIMUM	93.4
MEAN	49.075
VAR	926.548
STD DEV	30.4392

1.02:1 - 1.06:1

COUNT	10
MINIMUM	9.7
MAXIMUM	58.9
MEAN	31.485
VAR	259.58502
STD DEV	16.111642

1.1:1 - 1.17:1

COUNT	10
MINIMUM	2.3
MAXIMUM	62
MEAN	23.89
VAR	463.33089
STD DEV	21.525122

1.21:1 - 1.5:1

COUNT	8
MINIMUM	.86
MAXIMUM	61.5
MEAN	19.64
VAR	577.71517
STD DEV	24.035706

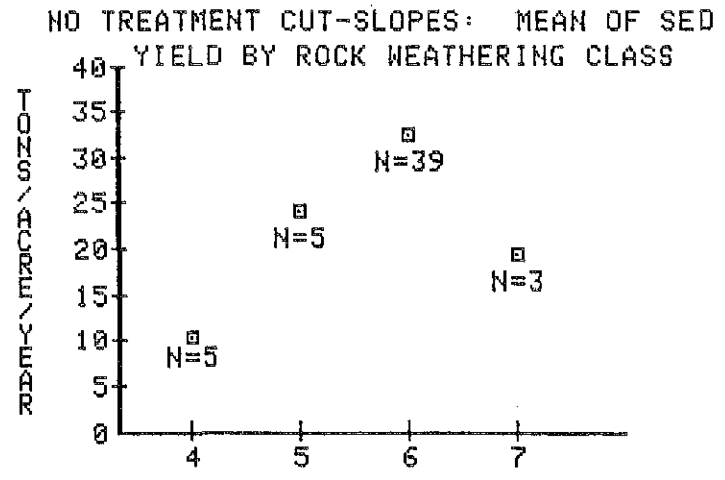


Fig.17

RWC 4 NO

COUNT	5
MINIMUM	2.1
MAXIMUM	16.5
MEAN	10.38
VAR	43.081599
STD DEV	6.5636575

RWC 5 NO

COUNT	5
MINIMUM	12.74
MAXIMUM	35.4
MEAN	24.078
VAR	73.153935
STD DEV	8.5530073

RWC 6 NO

COUNT	39
MINIMUM	.86
MAXIMUM	93.4
MEAN	32.328718
VAR	725.64733
STD DEV	26.937842

RWC 7 NO

COUNT	3
MINIMUM	8.4
MAXIMUM	39.4
MEAN	19.2
VAR	204.34666
STD DEV	14.294987

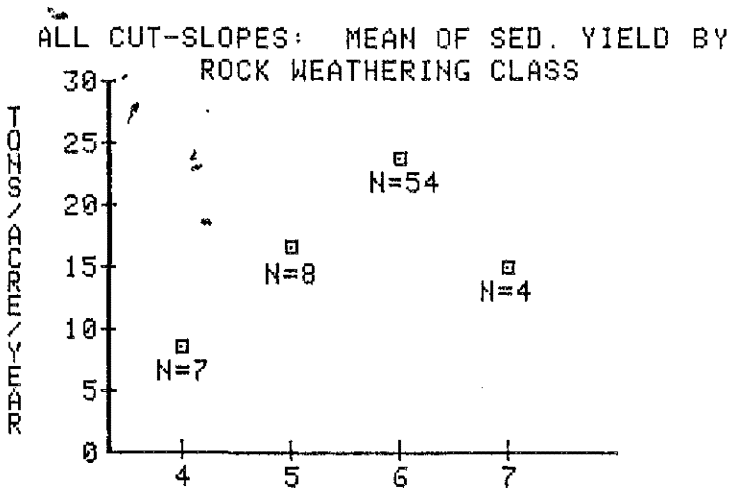


Fig.18

RWC 4

COUNT	7
MINIMUM	2.1
MAXIMUM	16.5
MEAN	8.45714
VAR	40.4624
STD DEV	6.36101

RWC 5

COUNT	8
MINIMUM	1.2
MAXIMUM	35.4
MEAN	16.72375
VAR	138.96619
STD DEV	11.788392

RWC 6

COUNT	54
MINIMUM	.19
MAXIMUM	93.4
MEAN	23.853703
VAR	712.67876
STD DEV	26.696044

RWC 7

COUNT	4
MINIMUM	2
MAXIMUM	39.4
MEAN	14.9
VAR	208.73
STD DEV	14.447491

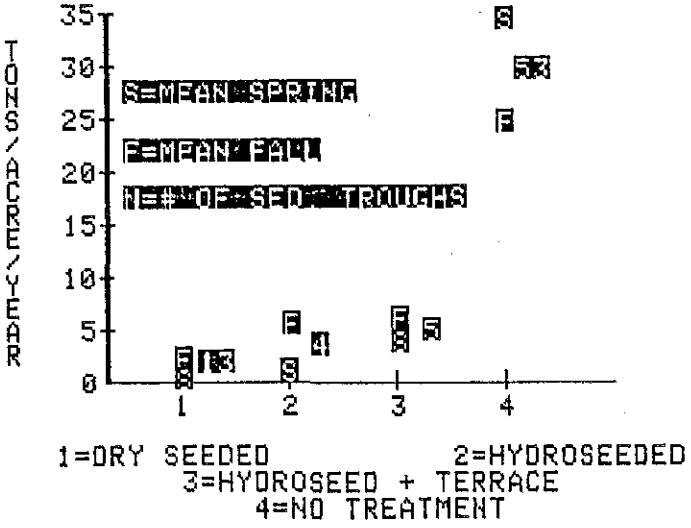


Fig.19

DRY SEED SPRING

COUNT	13
MINIMUM	.03
MAXIMUM	1.5
MEAN	.41307692
VAR	.19332899
STD DEV	.43969193

H+T SPRING

COUNT	5
MINIMUM	.4
MAXIMUM	8
MEAN	4
VAR	7.104
STD DEV	2.665333

DRY SEED FALL

COUNT	13
MINIMUM	.287
MAXIMUM	7.6
MEAN	1.7728461
VAR	4.2662295
STD DEV	2.0654853

H+T FALL

COUNT	5
MINIMUM	2
MAXIMUM	8.3
MEAN	4.48
VAR	4.3495999
STD DEV	2.0855694

HYDRO SPRING

COUNT	4
MINIMUM	.4
MAXIMUM	1.7
MEAN	.76
VAR	.2978
STD DEV	.54571034

NO TREAT SPRING

COUNT	53
MINIMUM	.2
MAXIMUM	158
MEAN	34.465283
VAR	1652.4851
STD DEV	40.650771

HYDRO FALL

COUNT	4
MINIMUM	1.6
MAXIMUM	15.9
MEAN	5.45
VAR	36.602499
STD DEV	6.05

NO TREAT FALL

COUNT	53
MINIMUM	1.2
MAXIMUM	65
MEAN	24.393584
VAR	259.54334
STD DEV	16.110349

Fill Slopes: Angle 1.5:1

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
40°	81+01/62F	.458	.653
41	81+01/46F	.847	
50	81+01/33F	3.225	2.06
58	81+01/77F	.902	
65	81+01/97F	1.449	1.45
75	81+01/117F	1.225	1.2
96	81+01/135F	2.07	2.07
106	54+69/7F	.3066	.956
108	54+69/25F	.9034	
111	54+69/45F	1.659	
123	54+69/157F	8.46	8.46
131	69+26/44F	.6714	33.6
134	76+82/76F	143.23	
134	76+82/-12F	44.02	
134	54+69/86F	3.69	
137	69+26/34F	.6819	
139	54+69/130F	9.6769	
140	69+26/24F	2.331	3.87
143	69+26/12F	.4536	
143	47+50/116F	1.933	
145	47+50/90F	.6643	
145	47+50/99Fb	4.55	
147	47+50/84Fb	14.47	
147	47+50/78F	2.69	

Table 3

Fill Slopes: Angle 1.5:1

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
150°	47+50/66Fb	9.42	
150	67+39/30F	6.65	
150	69+26/1F	3.347	
153	54+69/157F	11.577	
154	58+84/36F	24.288	
154	69+26/-12F	.2825	11.77
155	47+50/60F	1.89	
155	47+50/48F	.8829	
155	58+84/56F	62.727	
158	58+84/70F	8.249	
158	47+50/34F	.1625	
160	58+84/97F	14.128	
168	67+39/54F	.7731	7.4
169	67+39/80F	7.41	
176	67+39/120F	17.39	17.39
188	56+56/24F	5.39	
188	56+56/12F	7.33	6
188	56+56/2F	9.02	
189	56+56/33F	2.524	
192	60+79/43F	.698	3.6
192	60+79/10F	3.555	
197	76+86/96F	6.75	
210	75+76/58F	.6858	11.8
214	76+86/117F	23	

Table 3(cont.)

Fill Slopes: Angle 1.5:1

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
225°	75+76/24F	.799	.799
325	122+71/51F	2.61	2.61
330	125+92/30F	.991	
332	122+71/96F	3.38	2.7
332	122+71/81F	5.9	
332	122+71/65F	.6266	

Table 3(cont.)

Fill Slopes: Angle 1.3:1

ASPECT	COLLECTOR NUMBER	TOTAL AVG. YIELD OF SED. IN T/A/Y	GROUP AVG. T/A/Y
67	73+05/51F	29.77	
67	73+05/39F	31.166	
67	73+05/18F	45.1	
68	73+05/72F	2.4	24
68	73+05/63F	2.07	
70	73+05/144F	26.13	
185	64+76/15F	1.314	
186	64+76/30F	2.33	
188	64+76/-6F	1.38	4.9
189	64+76/40F	14.6799	
251	130+50/50F	2.75	
251	130+50/37F	3.41	2.8
251	130+50/24F	2.378	

Table 4

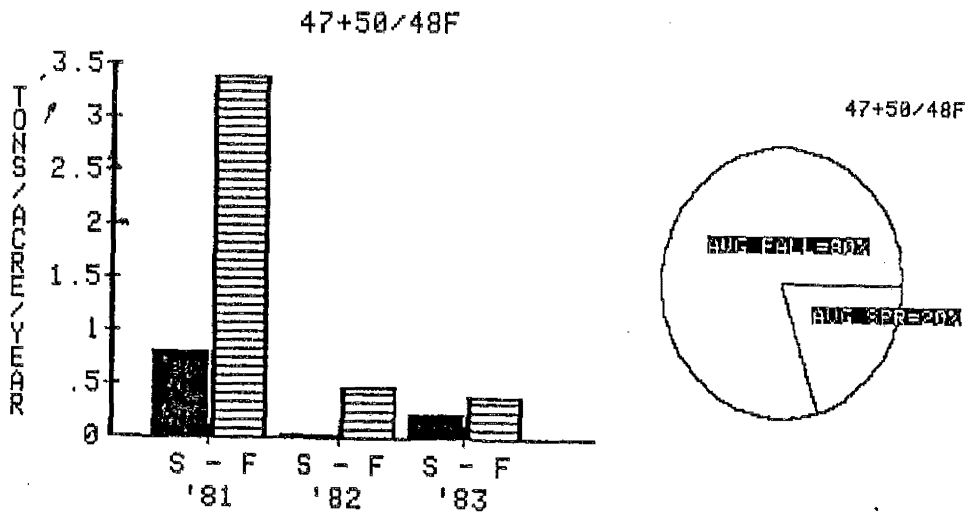

47+50/48F
TONS/ACRE/YEAR
3.5
3
2.5
2
1.5
1
.5
0
S - F
'81
S - F
'82
S - F
'83
47+50/48F

Fig.22

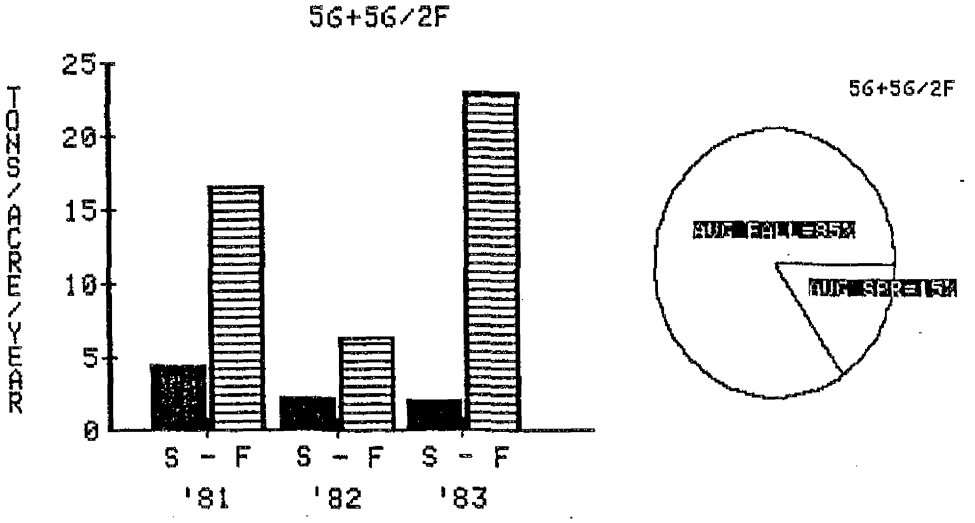

56+56/2F
TONS/ACRE/YEAR
25
20
15
10
5
0
S - F
'81
S - F
'82
S - F
'83
56+56/2F

Fig.23

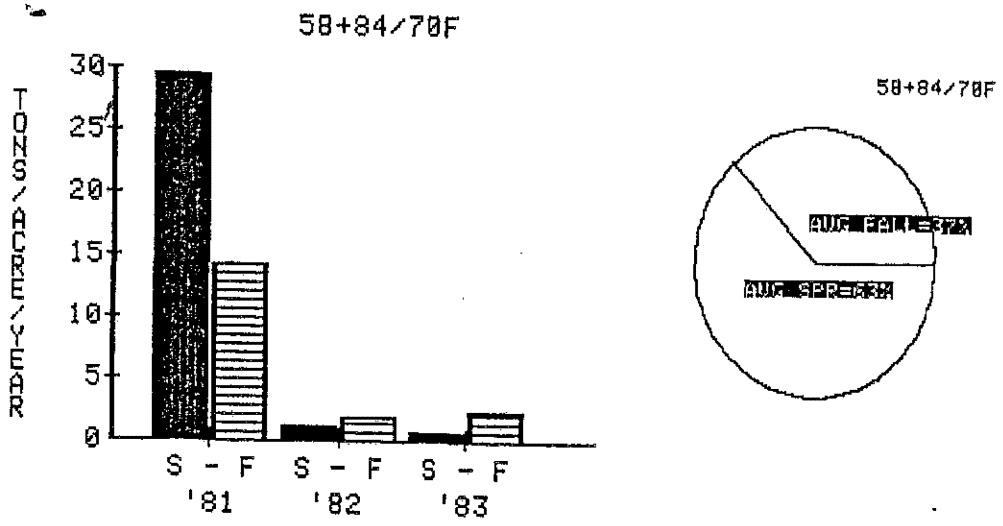

58+84/70F
TONS/ACRE/YEAR
30
25
20
15
10
5
0
S - F
'81
S - F
'82
S - F
'83
58+84/70F

Fig.24

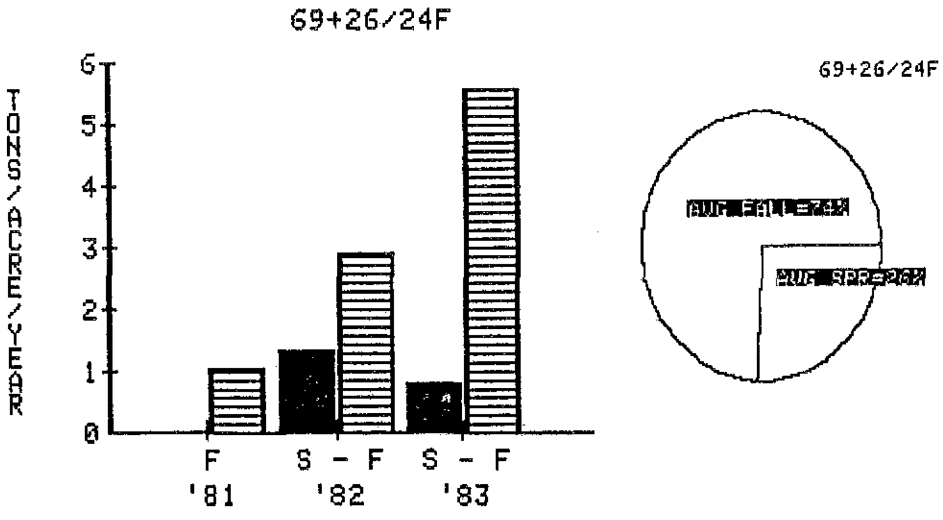

69+26/24F
TONS/ACRE/YEAR
6
5
4
3
2
1
0
F
'81
S - F
'82
S - F
'83
69+26/24F

Fig.25

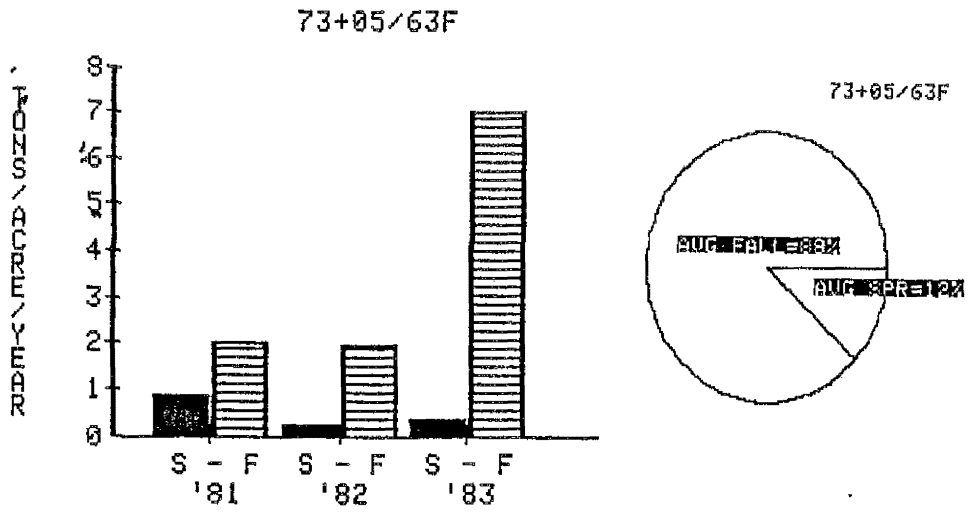

73+05/63F
TONS/ACRE/YEAR
8
7
6
5
4
3
2
1
0
S - F
'81
S - F
'82
S - F
'83
73+05/63F

Fig.26

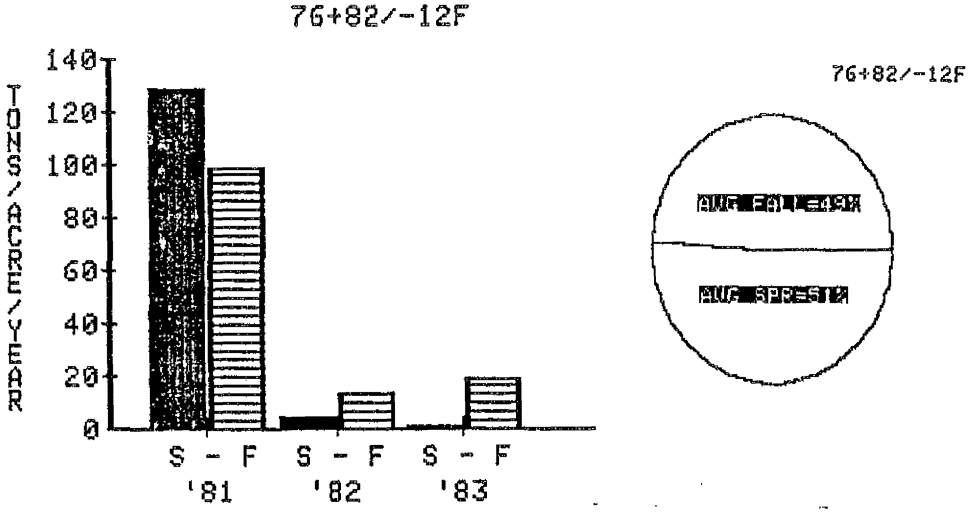

76+82/-12F
TONS/ACRE/YEAR
140
120
100
80
60
40
20
0
S - F
'81
S - F
'82
S - F
'83
76+82/-12F

Fig.27

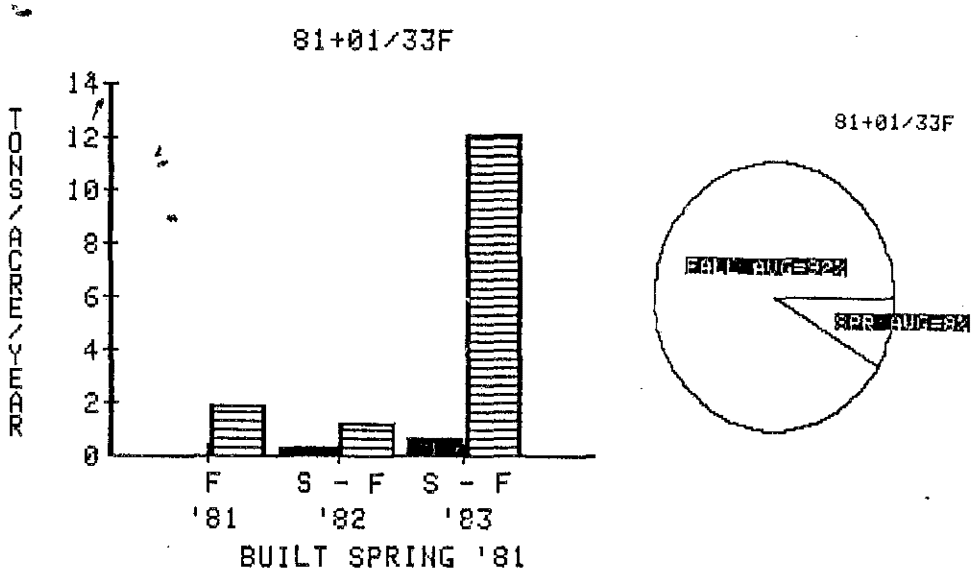

81+01/33F
TONS/ACRE/YEAR
14
12
10
8
6
4
2
0
F '81
S - F '82
S - F '83
BUILT SPRING '81
81+01/33F

Fig.28

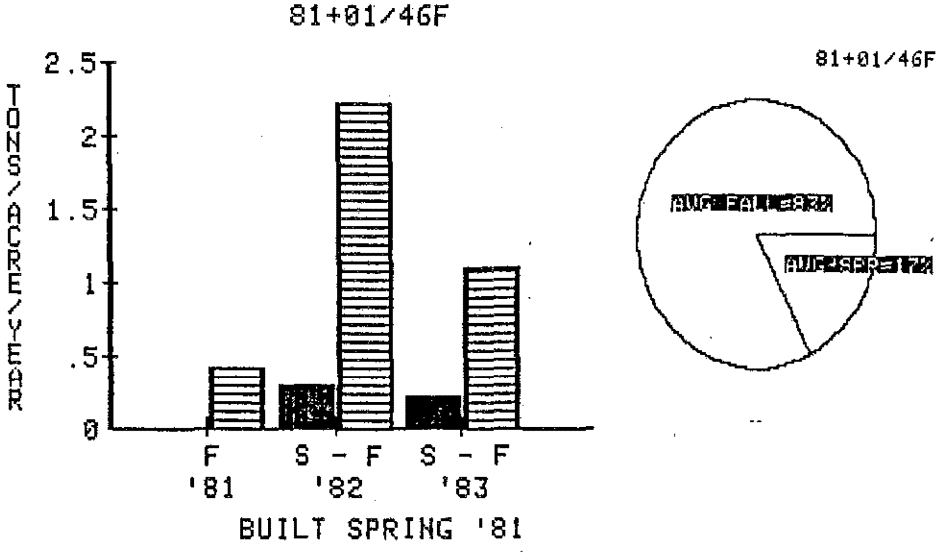

81+01/46F
TONS/ACRE/YEAR
2.5
2
1.5
1
.5
0
F '81
S - F '82
S - F '83
BUILT SPRING '81
81+01/46F

Fig.29

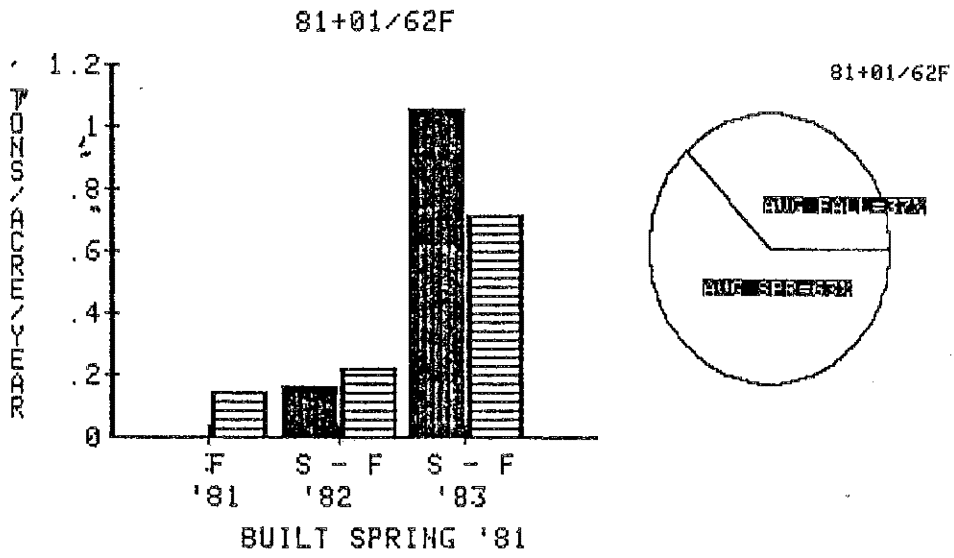

81+01/62F
TONS/ACRE/YEAR
1.2
1
.8
.6
.4
.2
0
F
'81
S - F
'82
S - F
'83
BUILT SPRING '81
81+01/62F

Fig.30

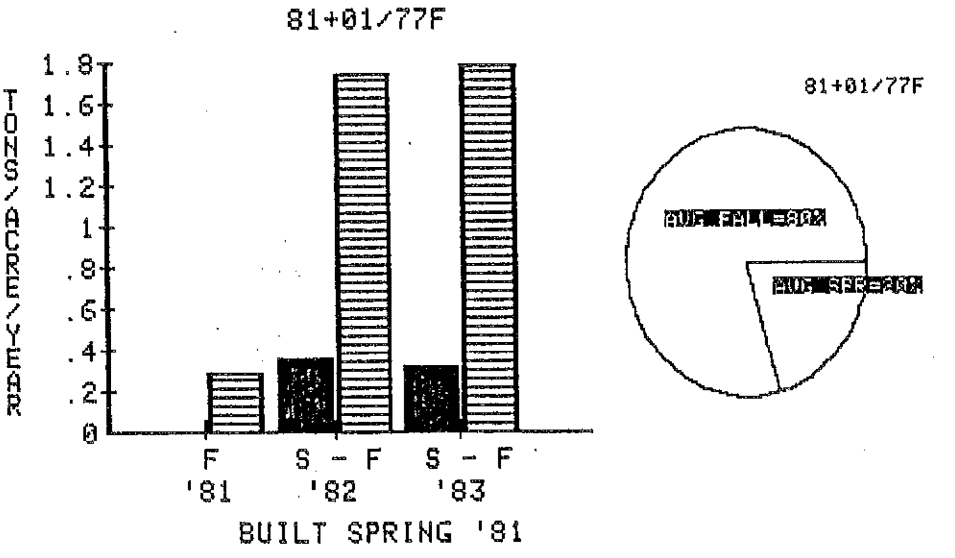

81+01/77F
TONS/ACRE/YEAR
1.8
1.6
1.4
1.2
1
.8
.6
.4
.2
0
F
'81
S - F
'82
S - F
'83
BUILT SPRING '81
81+01/77F

Fig.31

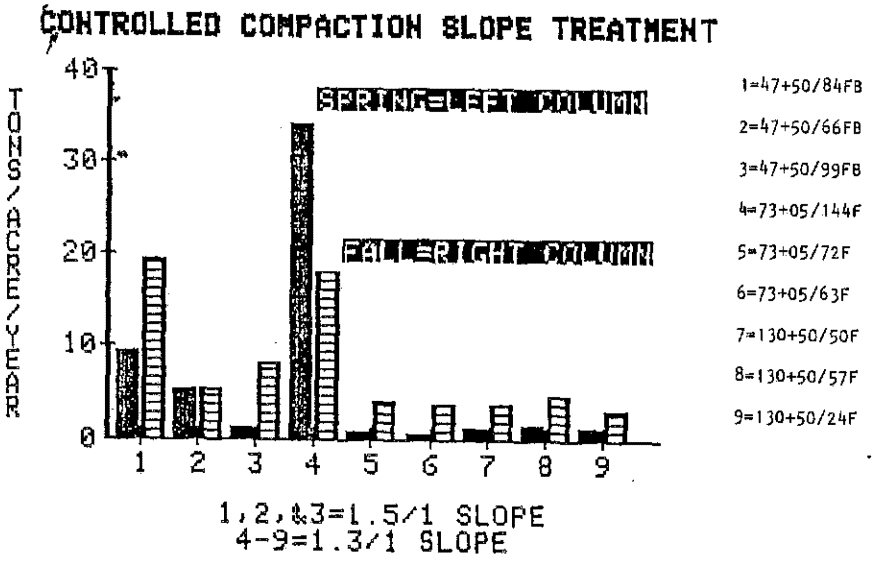

CONTROLLED COMPACTION SLOPE TREATMENT
TONS/ACRE/YEAR
40
30
20
10
0
1 2 3 4 5 6 7 8 9
SPRING-LEFT COLUMN
FALL-RIGHT COLUMN
1=47+50/84FB
2=47+50/66FB
3=47+50/99FB
4=73+05/144F
5=73+05/72F
6=73+05/63F
7=130+50/50F
8=130+50/57F
9=130+50/24F
1,2,&3=1.5/1 SLOPE
4-9=1.3/1 SLOPE

Fig.32

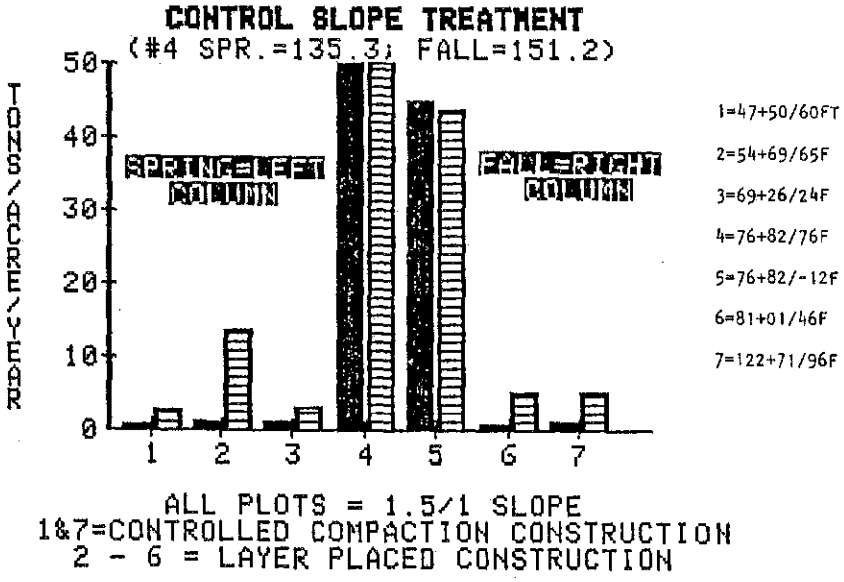

CONTROL SLOPE TREATMENT
(#4 SPR.=135.3; FALL=151.2)
TONS/ACRE/YEAR
50
40
30
20
10
0
1 2 3 4 5 6 7
SPRING-LEFT COLUMN
FALL-RIGHT COLUMN
1=47+50/60FT
2=54+69/65F
3=69+26/24F
4=76+82/76F
5=76+82/-12F
6=81+01/46F
7=122+71/96F
ALL PLOTS = 1.5/1 SLOPE
1&7=CONTROLLED COMPACTION CONSTRUCTION
2 - 6 = LAYER PLACED CONSTRUCTION

Fig.33

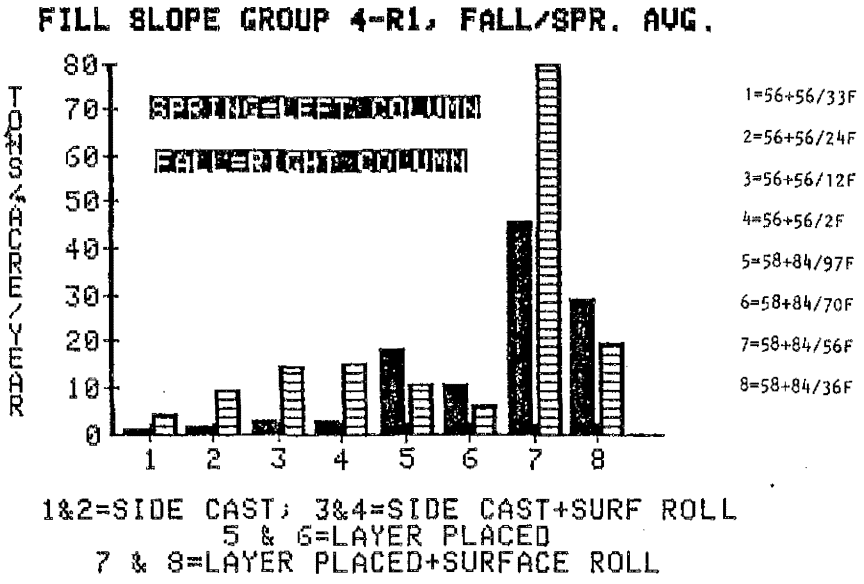

FILL SLOPE GROUP 4-R1, FALL/SPR. AVG.
TONS/ACRE/YEAR
80
70
60
50
40
30
20
10
0
1 2 3 4 5 6 7 8
SPRING LEFT COLUMN
FALL RIGHT COLUMN
1=56+56/33F
2=56+56/24F
3=56+56/12F
4=56+56/2F
5=58+84/97F
6=58+84/70F
7=58+84/56F
8=58+84/36F
1&2=SIDE CAST; 3&4=SIDE CAST+SURF ROLL
5 & 6=LAYER PLACED
7 & 8=LAYER PLACED+SURFACE ROLL

Fig.34

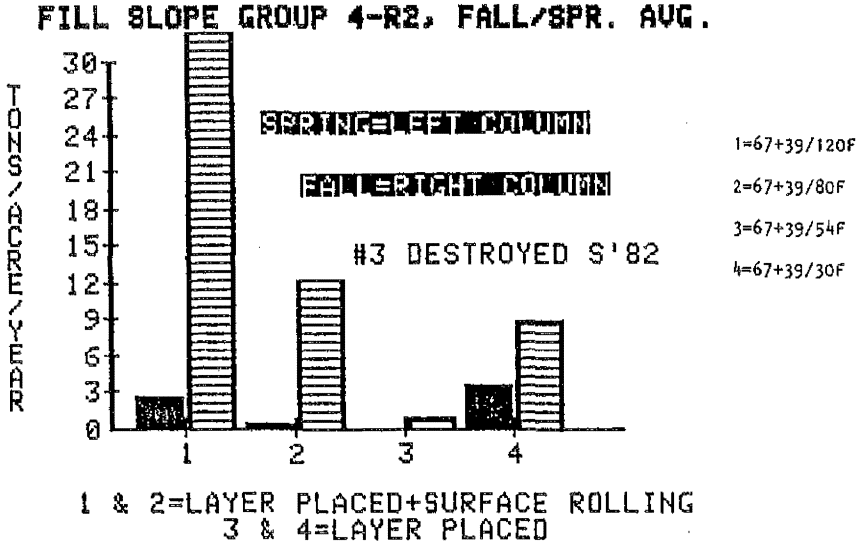
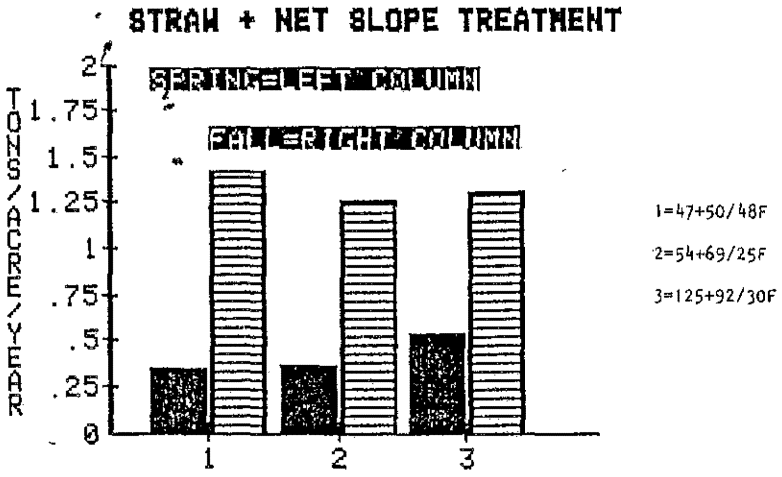
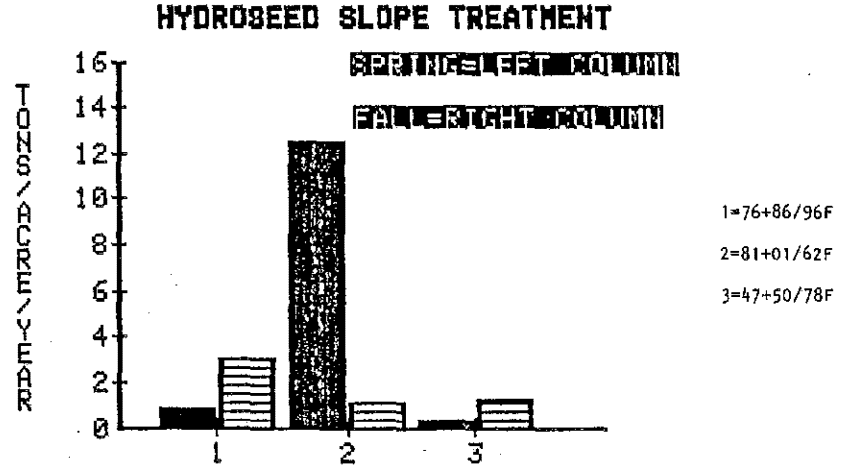

FILL SLOPE GROUP 4-R2, FALL/SPR. AVG.
TONS/ACRE/YEAR
30
27
24
21
18
15
12
9
6
3
0
1 2 3 4
SPRING LEFT COLUMN
FALL RIGHT COLUMN
#3 DESTROYED S'82
1=67+39/120F
2=67+39/80F
3=67+39/54F
4=67+39/30F
1 & 2=LAYER PLACED+SURFACE ROLLING
3 & 4=LAYER PLACED

Fig.35



ALL PLOTS = 1.5/1 SLOPE
1&3=CONTROLLED COMPACTION CONSTRUCTION
2=LAYER PLACED CONSTRUCTION

Fig.36



ALL PLOTS = 1.5/1 SLOPE
1=CONTROLLED COMPACTION CONSTRUCTION
2&3=LAYER PLACED CONSTRUCTION

Fig.37

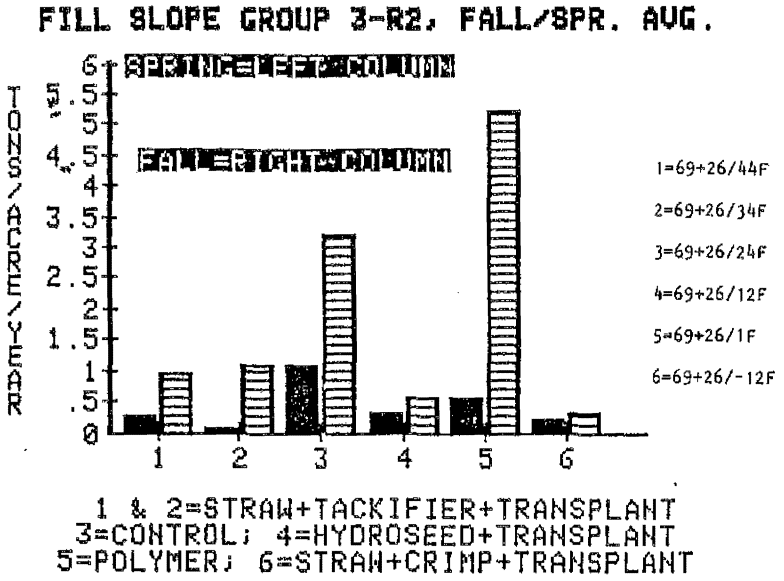

FILL SLOPE GROUP 3-R2, FALL/SPR. AVG.
SPRING LEFT COLUMN
FALL RIGHT COLUMN
TONS/ACRE/YEAR
1=69+26/44F
2=69+26/34F
3=69+26/24F
4=69+26/12F
5=69+26/1F
6=69+26/-12F
1 & 2=STRAW+TACKIFIER+TRANSPLANT
3=CONTROL; 4=HYDROSEED+TRANSPLANT
5=POLYMER; 6=STRAW+CRIMP+TRANSPLANT

Fig.38

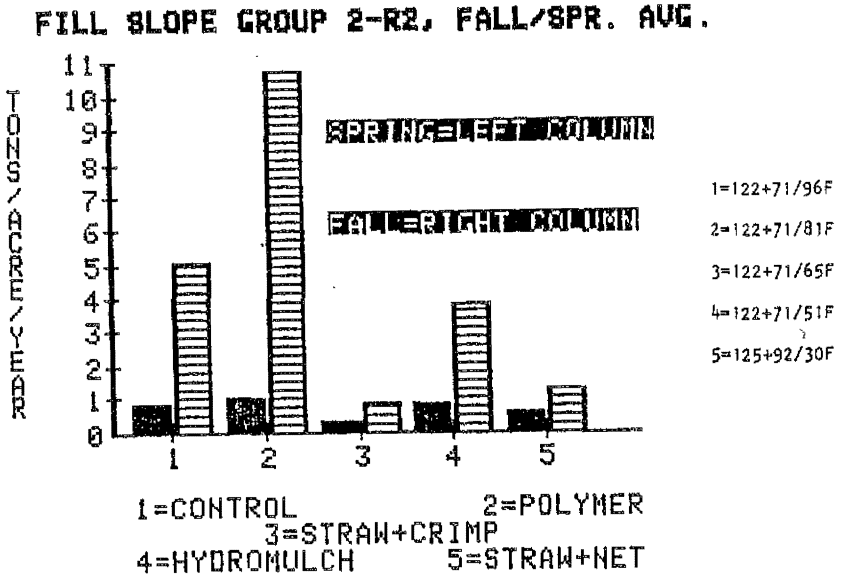

FILL SLOPE GROUP 2-R2, FALL/SPR. AVG.
SPRING LEFT COLUMN
FALL RIGHT COLUMN
TONS/ACRE/YEAR
1=122+71/96F
2=122+71/81F
3=122+71/65F
4=122+71/51F
5=125+92/30F
1=CONTROL
2=POLYMER
3=STRAW+CRIMP
4=HYDROMULCH
5=STRAW+NET

Fig.39

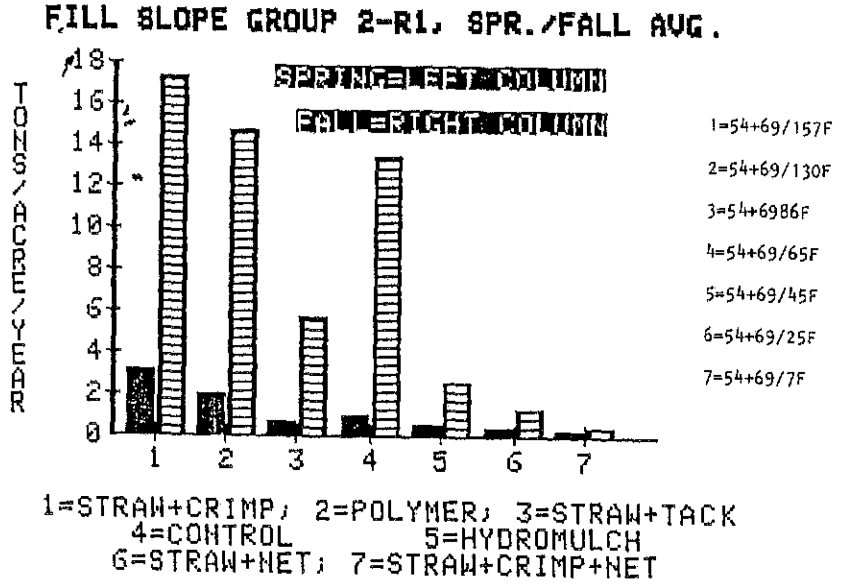

FILL SLOPE GROUP 2-R1, SPR./FALL AVG.
TONS/ACRE/YEAR
0
2
4
6
8
10
12
14
16
18
1 2 3 4 5 6 7
1=54+69/157F
2=54+69/130F
3=54+6986F
4=54+69/65F
5=54+69/45F
6=54+69/25F
7=54+69/7F
1=STRAW+CRIMP; 2=POLYMER; 3=STRAW+TACK
4=CONTROL 5=HYDROMULCH
6=STRAW+NET; 7=STRAW+CRIMP+NET

Fig.40

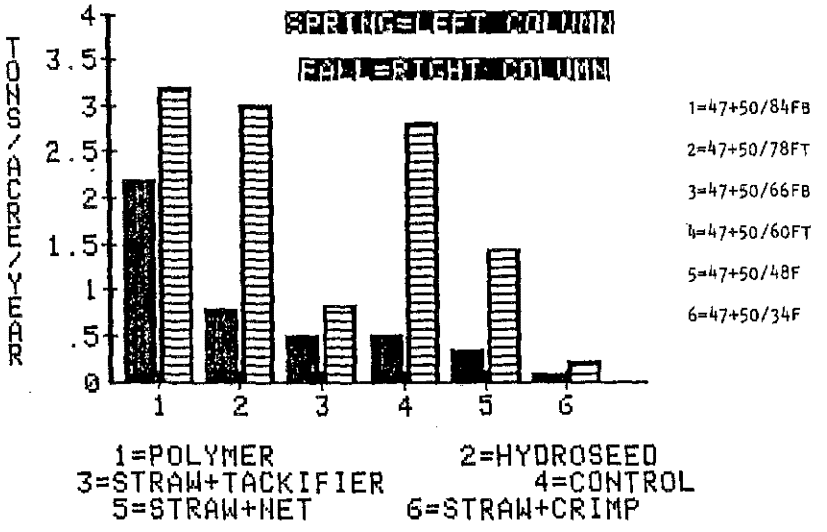

FILL SLOPE GROUP 3-R1, FALL/SPR. AVG.
TONS/ACRE/YEAR
0
.5
1
1.5
2
2.5
3
3.5
4
1 2 3 4 5 6
1=47+50/84FB
2=47+50/78FT
3=47+50/66FB
4=47+50/60FT
5=47+50/48F
6=47+50/34F
1=POLYMER
2=HYDROSEED
3=STRAW+TACKIFIER
4=CONTROL
5=STRAW+NET
6=STRAW+CRIMP

Fig.41

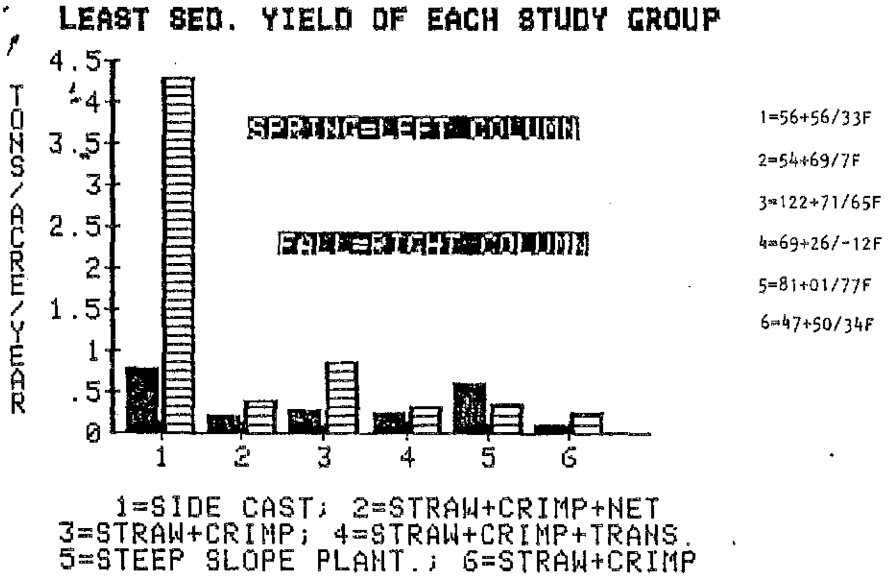

LEAST SED. YIELD OF EACH STUDY GROUP
TONS/ACRE/YEAR
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
1
2
3
4
5
6
SPRING-LEFT COLUMN
FALL-RIGHT COLUMN
1=56+56/33F
2=54+69/7F
3=122+71/65F
4=69+26/-12F
5=81+01/77F
6=47+50/34F
1=SIDE CAST; 2=STRAW+CRIMP+NET
3=STRAW+CRIMP; 4=STRAW+CRIMP+TRANS.
5=STEEP SLOPE PLANT.; 6=STRAW+CRIMP

Fig.42

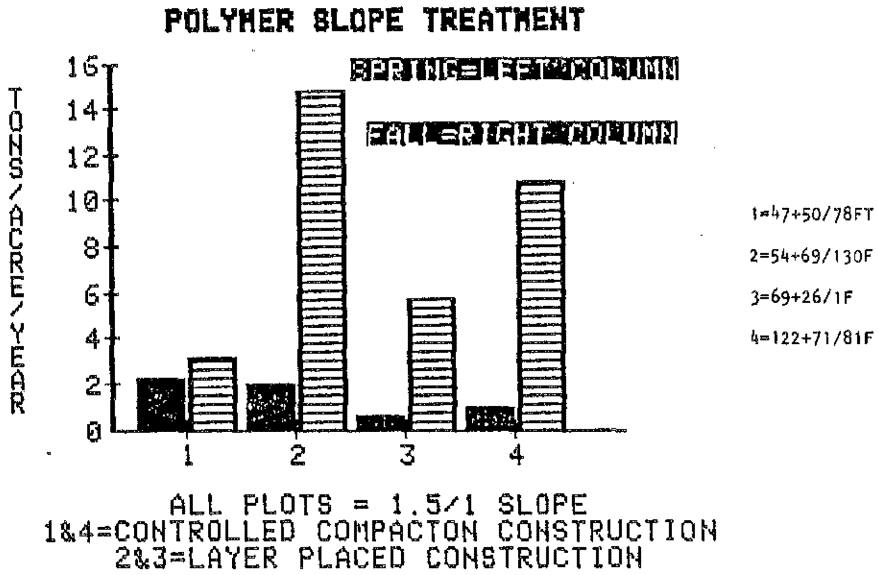

POLYMER SLOPE TREATMENT
TONS/ACRE/YEAR
16
14
12
10
8
6
4
2
0
1
2
3
4
SPRING-LEFT COLUMN
FALL-RIGHT COLUMN
1=47+50/78FT
2=54+69/130F
3=69+26/1F
4=122+71/81F
ALL PLOTS = 1.5/1 SLOPE
1&4=CONTROLLED COMPACTON CONSTRUCTION
2&3=LAYER PLACED CONSTRUCTION

Fig.43

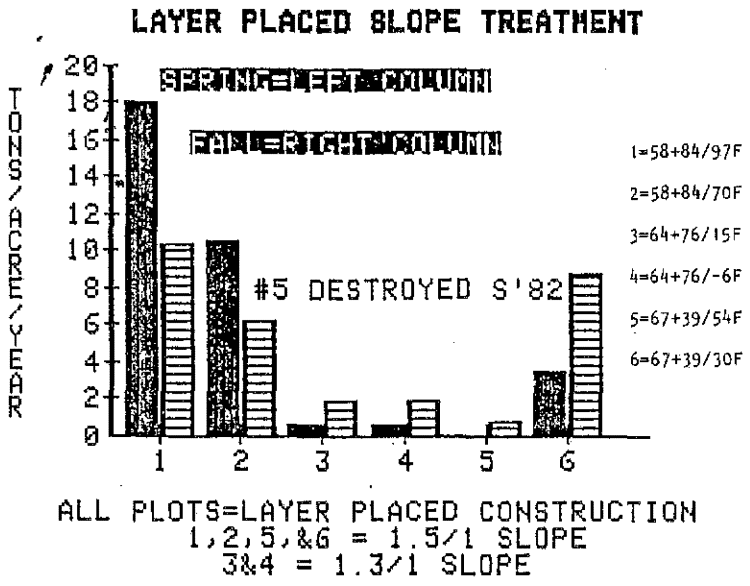

LAYER PLACED SLOPE TREATMENT
TONS/ACRE/YEAR
20
18
16
14
12
10
8
6
4
2
0
SPRING=LEFT COLUMN
FALL=RIGHT COLUMN
#5 DESTROYED S'82
1=58+84/97F
2=58+84/70F
3=64+76/15F
4=64+76/-6F
5=67+39/54F
6=67+39/30F
1
2
3
4
5
6
ALL PLOTS=LAYER PLACED CONSTRUCTION
1,2,5,&6 = 1.5/1 SLOPE
3&4 = 1.3/1 SLOPE

Fig.44

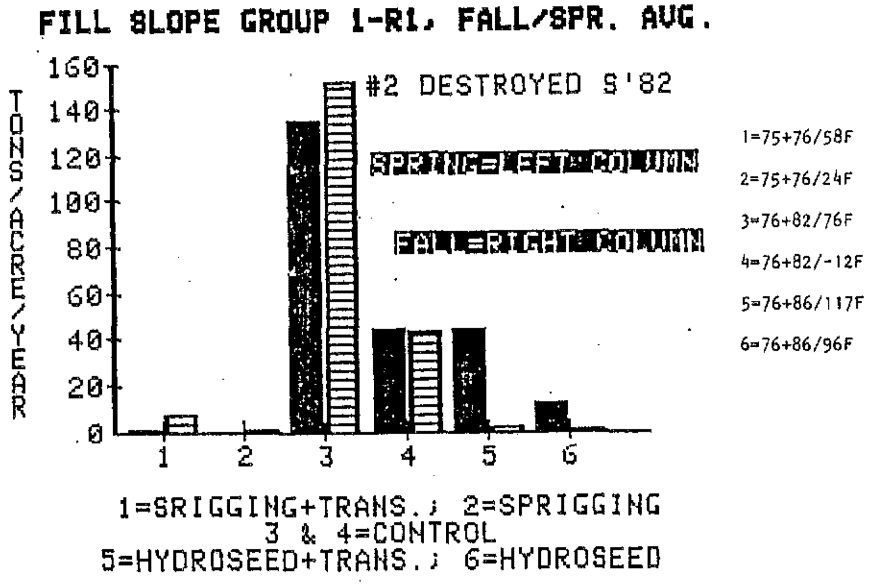

FILL SLOPE GROUP 1-R1, FALL/SPR. AUG.
TONS/ACRE/YEAR
160
140
120
100
80
60
40
20
0
#2 DESTROYED S'82
SPRING=LEFT COLUMN
FALL=RIGHT COLUMN
1=75+76/58F
2=75+76/24F
3=76+82/76F
4=76+82/-12F
5=76+86/117F
6=76+86/96F
1
2
3
4
5
6
1=SRIGGING+TRANS.; 2=SPRIGGING
3 & 4=CONTROL
5=HYDROSEED+TRANS.; 6=HYDROSEED

Fig.45

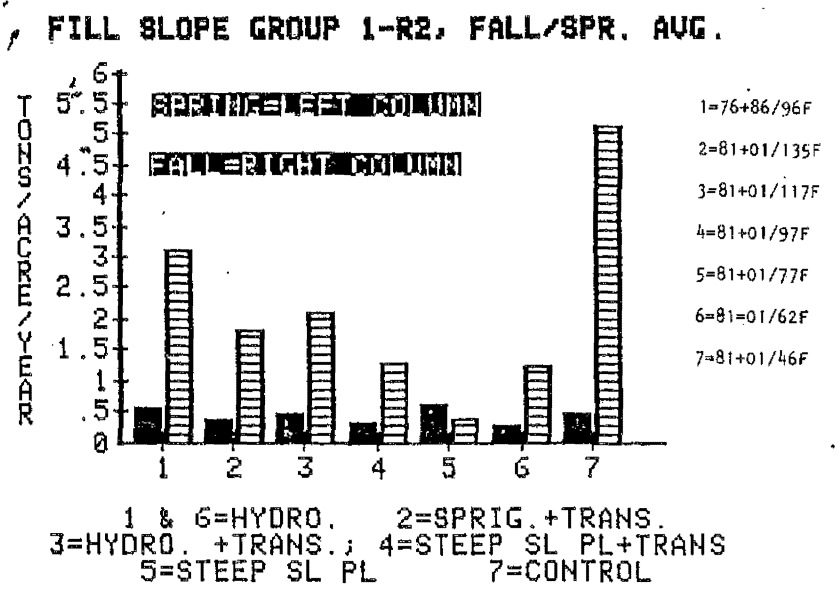

FILL SLOPE GROUP 1-R2, FALL/SPR. AVG.
TONS/ACRE/YEAR
SPRING=LEFT COLUMN
FALL=RIGHT COLUMN
1=76+86/96F
2=81+01/135F
3=81+01/117F
4=81+01/97F
5=81+01/77F
6=81=01/62F
7=81+01/46F
1 & 6=HYDRO. 2=SPRIG.+TRANS.
3=HYDRO. +TRANS.; 4=STEEP SL PL+TRANS
5=STEEP SL PL 7=CONTROL

Fig.46

PARTICLE SIZE DISTRIBUTION ANALYSIS

Sediment from 18 sediment collection troughs, eight on cut-slopes and ten on fill-slopes, were examined using the previously described Tyler grain analysis method to see what relationship, if any, particle size distribution has to the total sediment yield of these particular erosion plots. A sample of the sediment from each trough weighing from 200g to 1kg was sieved for each collection made in the spring and fall from 1981-1983. The individual particle size weight and percentage of total sample weight was tabulated then graphed. The histograms represent the cumulative sediment weight over three years with regard to particle size for each collection (pp. 58-65).

Cut Slopes

Since no slope treatments had been applied to the eight cut-slopes considered, that is not a factor in our evaluation. Slope aspect, area of the erosion plot, and elevation have no apparent influence on particle size distribution and are not considered either.

Variables evaluated include rock weathering class which ranged from 4 to 7 (Clayton and Arnold, 1972) and the slope angle ratio ranging from .95:1 to 1.2:1. These are compared in Table 5, along with the average particle size distribution percents for the total 3 year period. A composite histogram was constructed showing the average percent of particle size distribution for all eight sediment collection troughs.

No particular trends emerged from our evaluation relating sediment particle size to the parameters studied. In general, the percent of particle size distribution decreased over time in the 4.75mm size, tended

to decrease slightly in the 2mm-1mm range, then increased slightly in the .5mm size and continued to increase in the finer grains (data, pp. 67-74). Over the three year period, there appeared to be a general pattern of particle size distribution increase toward the finer particles and away from the coarser particles.

Looking at Table 5, p.66, it is apparent that the rock weathering class and the slope angles had little influence on the particle size distribution of the eight erosion plots. The grain size percentages are variable throughout although consistently higher among the coarser, .5mm-2mm., particles. Sediment yield makes no appreciable difference. Despite considerable variation in total sediment yield of the various sediment collection troughs, grain size distribution is comparable. The profiles of the individual cumulative sediment weight histograms (pp. 58-65) are reflected in the composite percentage histogram (p.75) indicating a relatively homogeneous display of particle size distribution.

Fill Slopes

Of the ten fill-slope erosional plots evaluated, seven had 12kg or less total sediment yield over the three year period. For these seven plots, particle size distribution of the total sediment yield produced over three years was graphed (figs.60-6). Particle size distribution of each seasonal collection was determined and is shown in tabular form (Tab. 14-23). Particle size distribution for each seasonal collection was graphed for the three plots with the highest sediment yields (figs.57-9). The Forest Service designated study groups, slope gradients, and the particle size distribution of the

sediment yields during three years are compared in Table 24 (p. 96).

In general, the percentage of total sediment yield composed of medium- to fine-grained size particles, .5mm to .25mm, remained uniform over the three year study. Percentages of the total sediment yield composed of the 2mm to 1mm particle sizes increased slightly over the three years throughout all the fill-slope samples. As can be seen on the seasonal tabulated data sheets (pp. 86-95), the three fill-slopes for which cumulative amounts of sediment yield were plotted showed a decrease in percentage of particles smaller than .125mm in size. The remaining seven fill-slopes for which these data were collected showed the opposite pattern, namely a general increase in percentage of the total sediment yield composed of the fine particle sizes over the same three years of collections.

Regardless of differences in total quantity of sediment yielded, slope treatment methods applied, or slope gradients, both the individual and composite fill-slope graphs show only minor variations in particle size distribution over the three year study. The relative uniformity of particle size distribution can be seen in the histograms (figs. 55-56).

68+78/102C

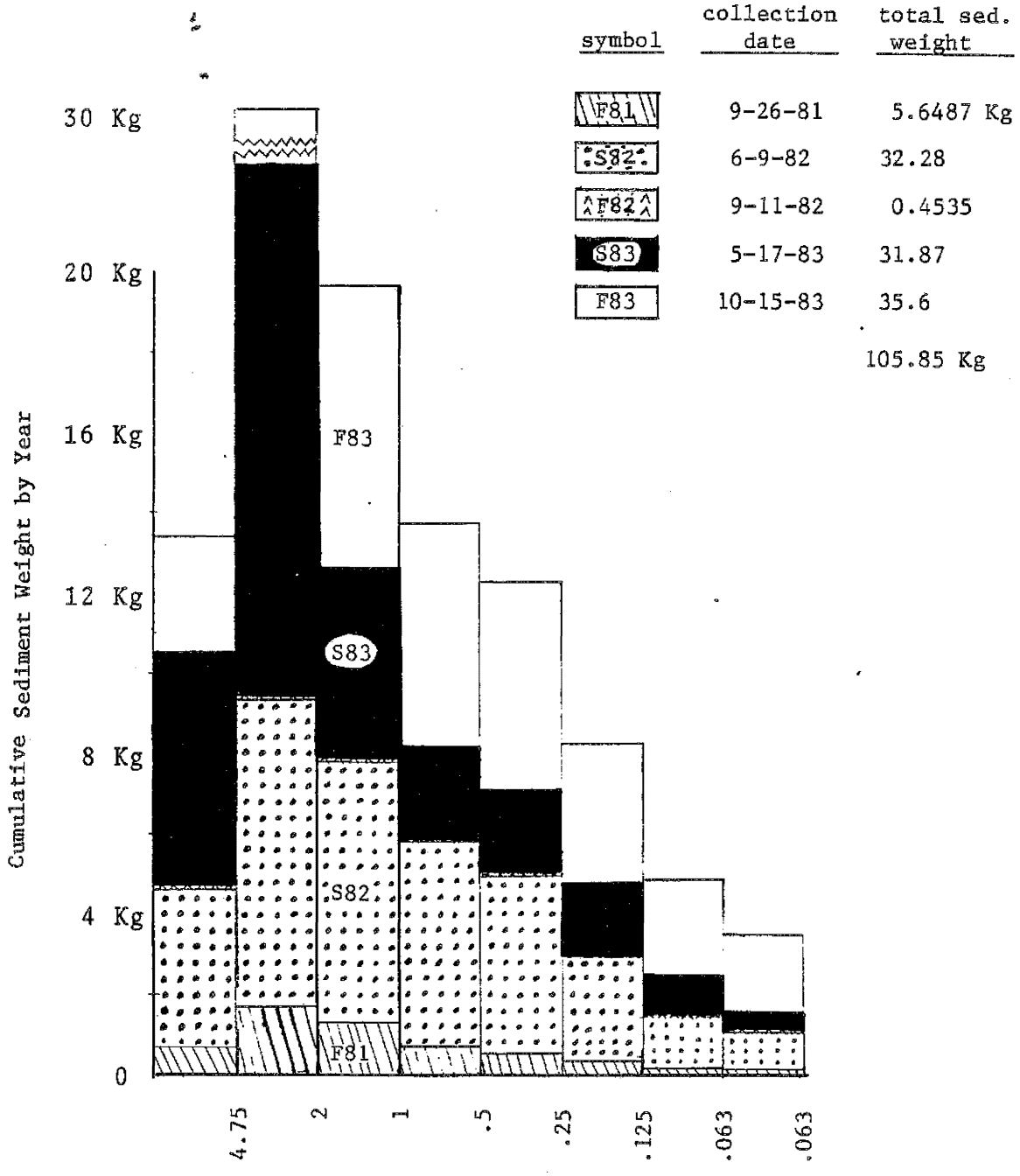


Fig.47

47+31/75C

symbol	collection date	total sed. weight
F81	9-26-81	1.6072 Kg
S82	6-9-82	3.384
F82	9-11-82	6.449
S83	5-17-83	7.677
F83	10-15-83	35.9
		55.02 Kg

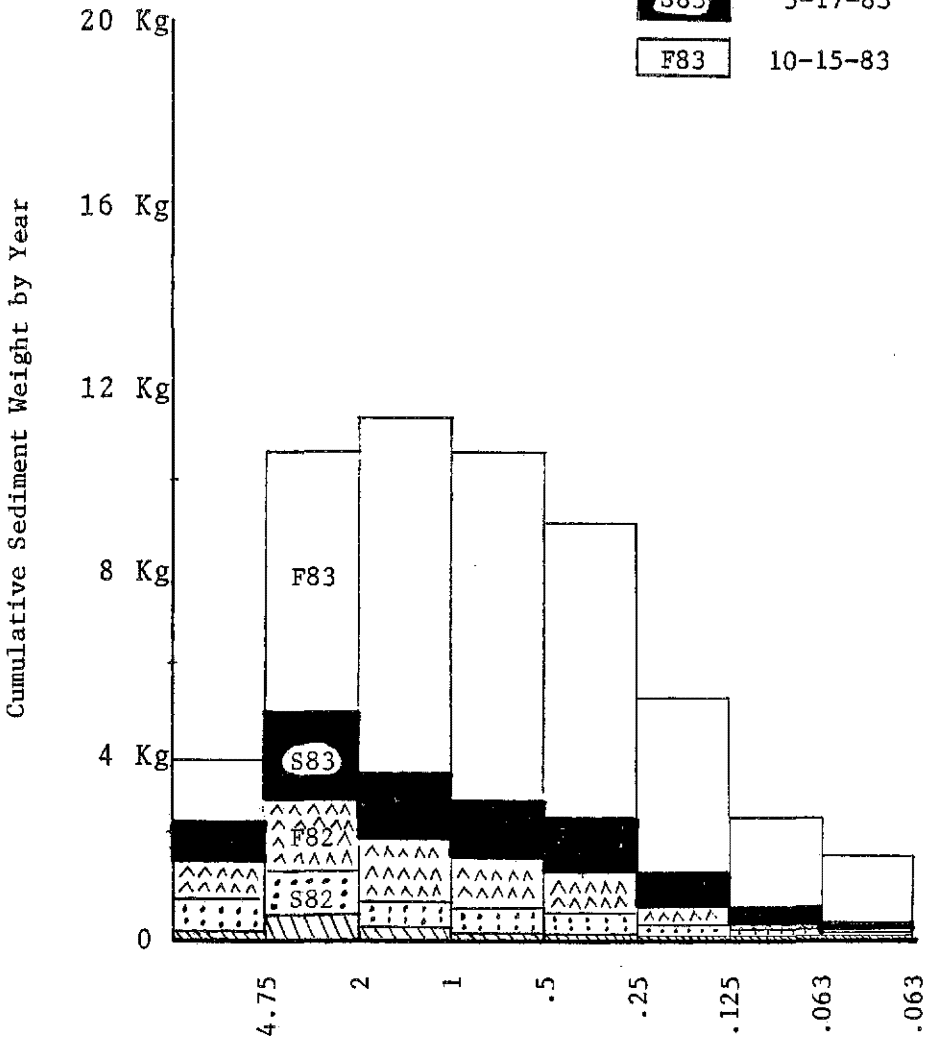


Fig.48

57+75/132C

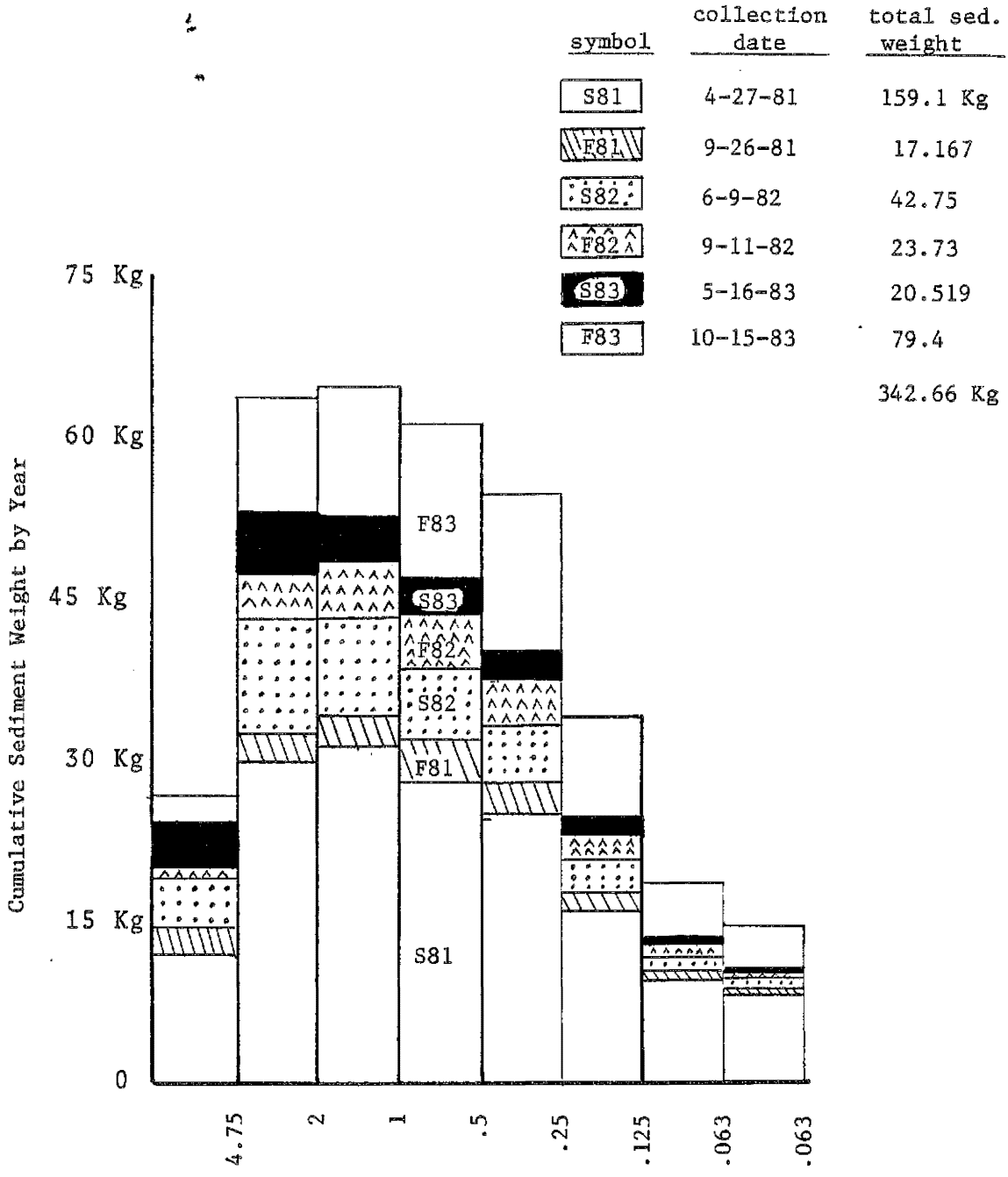


Fig.49

62+03/21C

symbol	collection date	total sed. weight
S81	4-28-81	5.9 Kg
F81	9-26-81	1.0371
S82	6-9-82	1.237
F82	9-11-82	3.29
S83	5-16-83	3.133
F83	10-15-83	30.1
		44.697 Kg

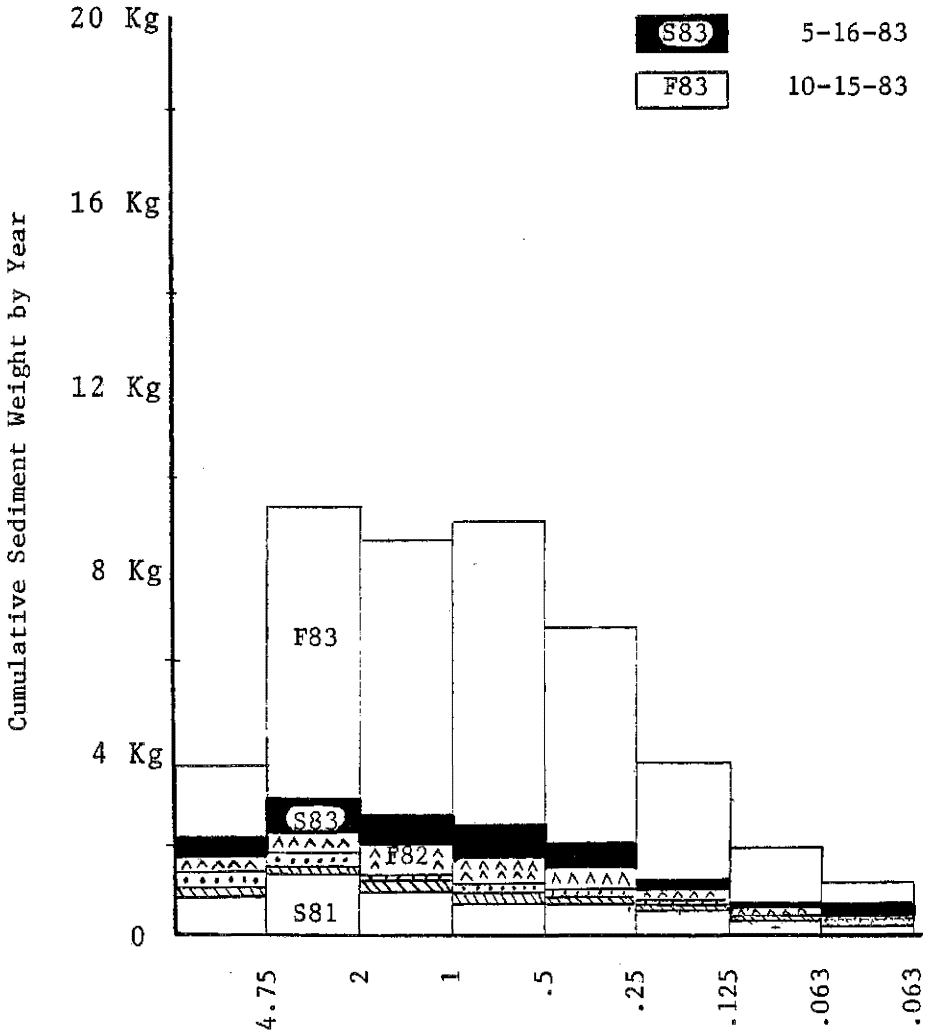


Fig.50 Sediment Particle Size in mm.

62+03/87C

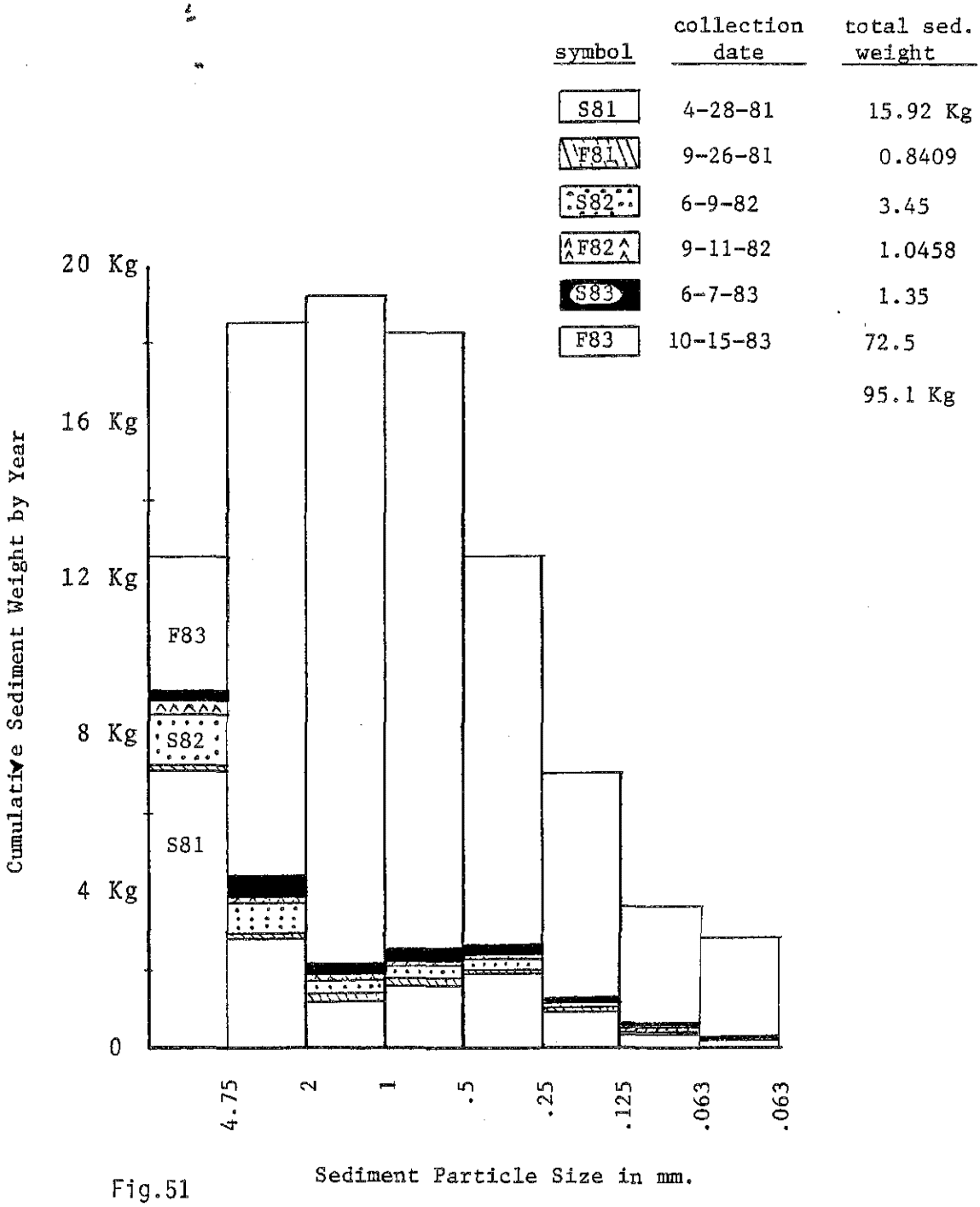


Fig.51

73+67/45C

symbol	collection date	total sed. weight
S81	4-29-81	10.54 Kg
F81	9-26-81	9.6466
S82	6-9-82	5.48
F82	9-11-82	8.91
S83	5-17-83	7.45
F83	10-15 83	17.00
		59.02 Kg

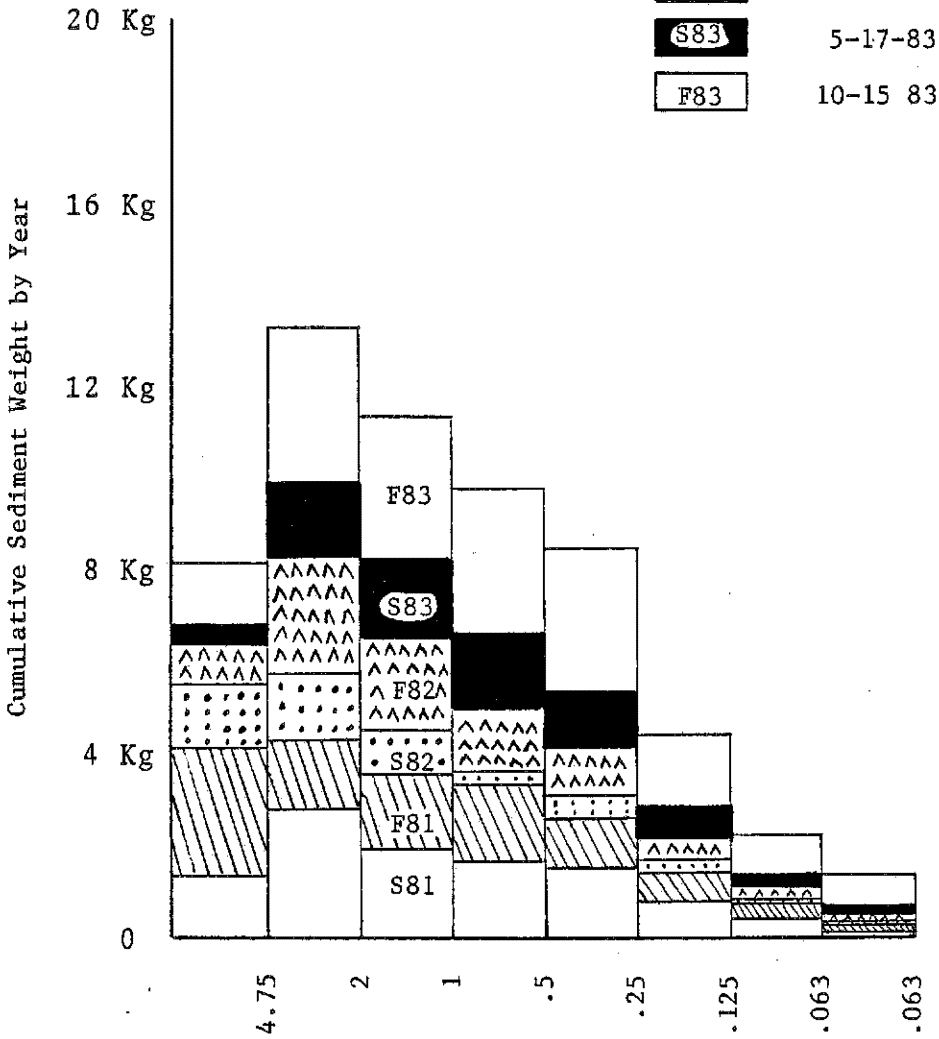


Fig.52 Sediment Particle Size in mm.

80+57/13C

symbol	collection date	total sed. weight
F81	9-26-81	.5024 Kg
S82	6-9-82	3.36
F82	9-11-82	3.97
S83	5-23-83	3.95
F83	10-15-83	10.30
		22.08 Kg

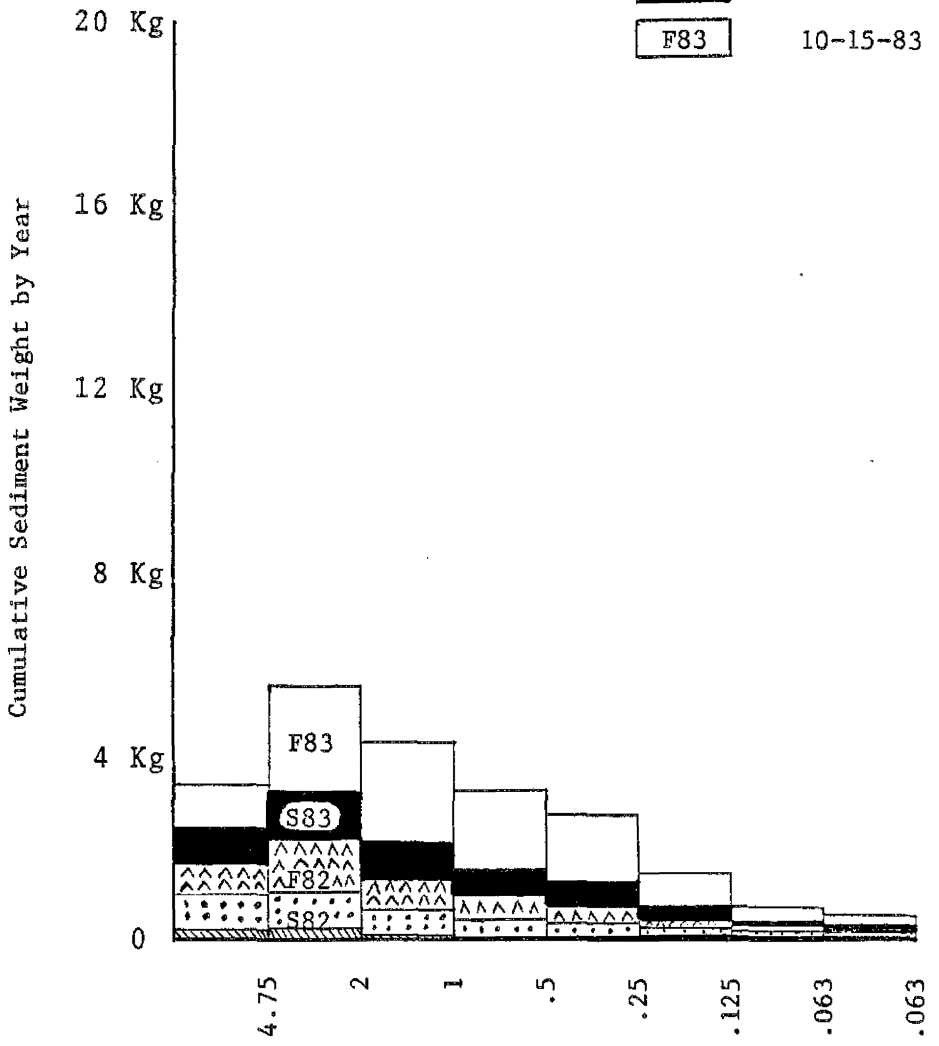


Fig.53

64+34/117C

symbol	collection date	total sed. weight
S81	4-28-81	12.514 Kg
F81	9-26-81	.5172
S82	6-9-82	2.197
F82	9-11-82	6.143
S83	5-16-83	2.518
F83	10-15-83	35.17
		59.05 Kg

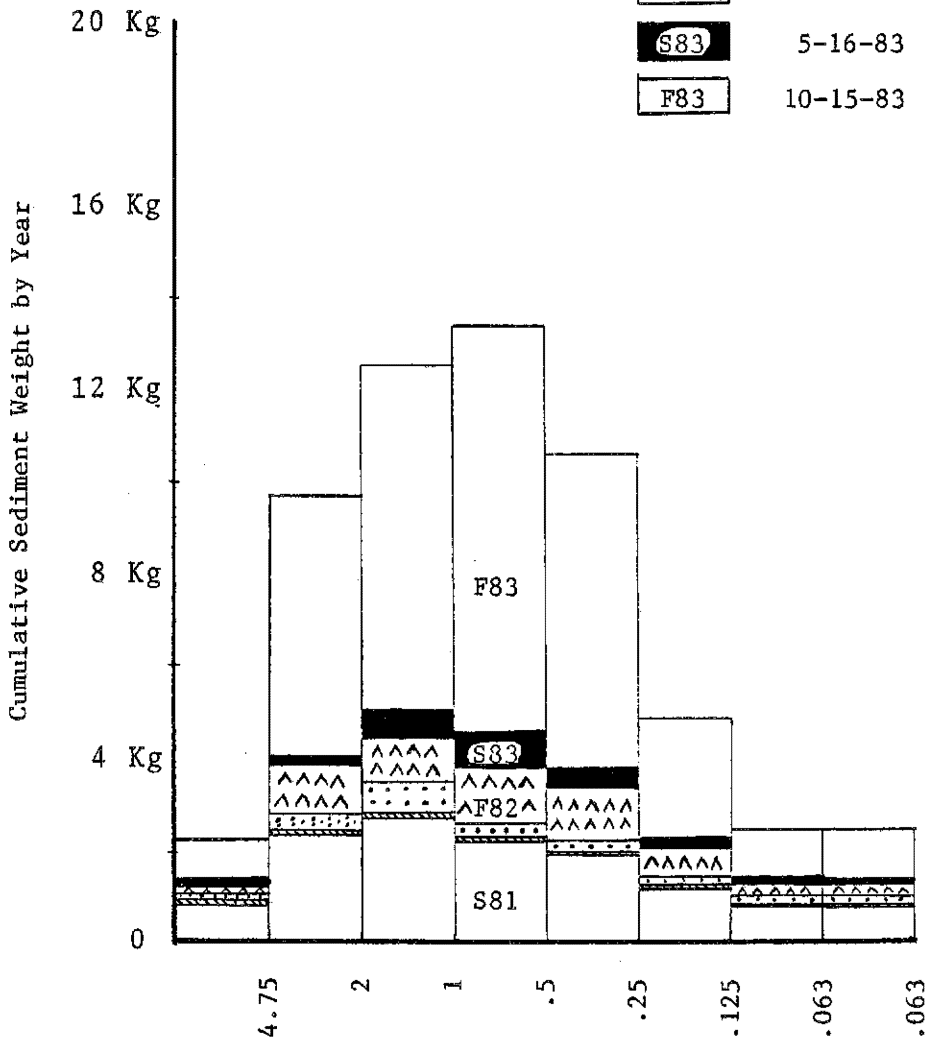


Fig.54

Collector Number	Rock Weathering Class	Slope Angle	3 yr. Sed. yield in Kg.	3 Year Total Particle Size %							
				4.75	2	1	.5	.25	.125	.063	.063
68+78/102C	4	1.06:1	105.8	12.6	28.8	18.5	13.1	11.6	7.7	4.1	3.3
47+31/75C	5	1.2:1	55.2	7.2	19.3	20.5	19	16.4	9.5	4.5	3.9
57+75/132C	6	1:1	342.6	7.8	19.4	19.7	17.9	15.9	9.8	5.3	4
62+03/21C	6	1.13:1	44.7	8.4	20.8	19.2	20.2	15	8.3	4.2	3.3
62+03/87C	6	1.06:1	95.1	13.2	19.4	20.3	19.3	13.2	7.4	3.9	3
73+67/45C	6	.95:1	59	13.7	22.5	19.1	16.6	14	7.5	3.7	2.3
80+57/13C	6	1.02:1	22	15.7	25.6	19.5	14.7	12.2	6.4	3.2	2.5
64+34/117C	7	1.17:1	59	3.7	16.6	21.2	22.9	17.9	8.2	4	4
			Average %	10.3	21.5	19.7	17.9	14.5	8	4.1	3.3

Table 5

COLLECTOR NUMBER 68+78/102C

ELEVATION 5161.27 Ft.
SLOPE 1.06:1
ASPECT 150
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 4
AREA 150.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-13-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8 mm						
4.75		54.4g 13.6	92g 11.9	58.2g 12.8	41g 18.5	101g 7.9
2		120.5g 30.1	182.6 23.7	104.9 23.1	94.8 42.7	268 21.1
1		91.4 22.8	157 20.3	89.3 19.7	32.9 14.8	250.1 19.7
.5		52.6 13.1	121 15.7	70 15.4	15.5 7	206.6 16.2
.25		38 9.5	104.1 13.5	62.6 13.8	14.8 6.7	184.2 14.5
.125		22.8 5.7	62.5 8.1	36.7 8	12.5 5.6	120.7 9.5
.063		11.7 2.9	29.8 3.9	18.4 4	7.4 3.3	70 5.5
.063		8.7 2.2	22.7 2.9	13.4 3	3.1 1.4	70.2 5.5
TOTAL WT. OF SIEVED SAMPLE		400.1g	771.5g	453.5g	222g	1270.8g

Table 6

COLLECTOR NUMBER 47+31/75C

ELEVATION 4999.29 Ft.
SLOPE 1.20:1
ASPECT 60
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 5
AREA 103.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-14-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8 mm						
4.75		48.8g 15.5	169.5g 20	90g 11.6	84.7g 11.9	69.4g 3.9
2		110.8 35.2	231.4 27.3	198.4 25.6	169.5 23.8	275.6 15.6
1		60.2 19.1	143.3 16.9	154.6 19.9	133.3 18.7	381.5 21.6
.5		38.7 12.3	121.9 14.4	124.5 16	123.9 17.4	367.1 20.7
.25		30.4 9.6	107.1 12.6	108.7 14	108.6 15.3	316 17.8
.125		16 5	48.3 5.7	53.8 7.5	57.5 8.1	189.4 10.7
.063		6.8 2.2	17.8 2.1	25.8 3.3	24.3 3.4	98 5.5
.063		3.2 1	8.4 1	14.2 1.8	10 1.4	72.8 4.1
TOTAL WT. OF SIEVED SAMPLE		324.9g	847.7g	774.4g	711.8g	1769.8g

Table 7

COLLECTOR NUMBER 57+75/132C

ELEVATION 5091.77 Ft.
SLOPE 1.00:1
ASPECT 100
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 6
AREA 138.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8 mm			4.4g	2.6								
4.75	12.6g	7.5	12.9g	7.6	141.9g	12.5	23.6g	3.7	41.8g	12.2	51.8g	5.4
2	31.7	18.8	24.5	14.5	283.4	25	116.5	18.3	96.5	28.1	162.4	16.9
1	32.8	19.5	31..	18.3	237	21	141	22.2	68.7	20	182.5	19
.5	29.6	17.6	36.5	21.9	181.3	16	132.7	20.9	53.3	15.5	175.7	18.3
.25	26.7	15.8	25.2	14.9	148.1	13	117.5	18.5	43.1	12.5	171.9	17.9
.125	16.7	9.9	18.4	10.8	80.8	7.1	61.6	9.7	23.6	6.9	113.7	11.8
.063	9.9	5.9	8.8	5.2	36.5	3.2	28.8	4.5	11.3	3.3	58.3	6.1
.063	8.4	5.0	7.9	4.7	22.1	2	12.5	1.9	5.1	1.5	44.6	4.6
TOTAL WT. OF SIEVED SAMPLE	168.4g		169.5g		1131.1g		634.2g		343.4g		960.9g	

Table 8

COLLECTOR NUMBER | 62+03/21C

ELEVATION UNLISTED
SLOPE 1.13:1
ASPECT 100
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 6
AREA 179.20 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8 mm			10g	6.4								
4.75	23g	14.9	21.7	14	214.7g	30.1	37.7g	8.8	74.8g	12.9	56.9g	5.4
2	34.6	22.5	26.5	17.1	200.5	28.1	62.2	14.6	120.5	20.7	219.1	20.9
1	25.8	16.8	29.6	19.1	70.4	9.9	97.9	22.9	107.8	18.6	208.8	19.9
.5	20.8	13.5	20.9	13.5	72.6	10.2	84.7	19.8	129.7	22.3	231	22
.25	19.7	12.8	18	11.6	81.8	11.5	69.4	16.3	90.6	15.6	162.6	15.5
.125	13.9	9	14.7	9.5	45.3	6.4	42.5	10	38.3	6.6	86.2	8.2
.063	8.6	5.6	7.2	4.6	18.2	2.6	21.8	5.1	14.7	2.5	45.1	4.3
.063	7.2	4.7	6.5	4.2	7.9	1.1	11.4	2.7	4.4	0.7	38.1	3.6
TOTAL WT. OF SIEVED SAMPLE	153.6g		1515.1g		711.4g		427.6g		580.8g		1047.8g	

Table 9

COLLECTOR NUMBER 62+03/87C

ELEVATION UNLISTED
SLOPE 1.06:1
ASPECT 180
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 6
AREA 184.80 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8mm			12.7g	7.3								
4.75	84.4g	44.6	25.3	14.5	241.8g	38.7	335.1g	32	99.1g	18.7	50.4g	4.7
2	33.4	17.7	28.3	16.2	144.8	23.1	235.8	22.5	118.8	22.5	213	19.8
1	13.9	7.4	36	20.6	64.8	10.4	130.1	12.4	93.3	17.6	256	23.7
.5	19.1	10.1	31.2	17.8	58.2	9.3	129	12.3	101.7	19.2	236.5	21.9
.25	22.7	12	19.4	11.1	58.4	9.3	117.7	11.2	74.1	14	148.8	13.8
.125	10.4	5.5	11.8	6.7	32.6	5.2	57.9	5.5	30.6	5.8	86.2	8
.063	4	2.1	5.2	3	14.9	2.4	24.9	2.4	9.5	1.8	47.8	4.4
.063	1.5	0.8	5	2.9	8.7	1.4	17.4	1.7	1.7	0.3	39.1	3.6
TOTAL WT. OF SIEVED SAMPLE	189.4g		174.9g		624.2g		1047.9g		528.8g		1077.8g	

Table 10

COLLECTOR NUMBER 73+67/45C

ELEVATION 5170.24
SLOPE 0.95±1
ASPECT 90
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS
AREA 71.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8mm		9g 4.3				
4.75	21.3g 12.4	51.8 24.8	170g 25.5	63.3g 10	20.5g 5.9	58.1g 7.6
2	45.7 26.7	32.7 15.7	179.7 27	185.6 29.2	75.2 21.6	149 19.4
1	31.3 18.3	35.6 17	115.5 17.4	141.2 22.3	79.8 23	140.7 18.3
.5	27.4 16	29 13.9	79.3 11.9	96.6 15.2	75.9 21.9	143.2 18.6
.25	24.4 14.2	23.9 11.4	62.9 9.5	76.5 12	53.8 15.5	132.2 17.2
.125	12.8 7.5	14.3 6.8	33.7 5	40.2 6.3	26.1 7.5	74 9.6
.063	7.3 4.3	6.2 3	15.3 2.3	18.6 2.9	11.7 3.4	38 4.9
.063	1.1 0.6	6 2.9	8 1.2	12.5 2	4.9 1.4	32.4 4.2
TOTAL WT. OF SIEVED SAMPLE	171.3g	208.5g	664.4g	634.5g	347.9g	767.6g

Table 11

COLLECTOR NUMBER 80+57/13C

ELEVATION 5224.52Ft.
SLOPE 1.02:1
ASPECT 52
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 6
AREA 48.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-07-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8 mm						
4.75		69.2g 29.5	136.1g 23	108.8g 19.6	88.6g 18	123.5g 10.2
2		80.9 34.5	163.1 27.5	157.6 28.4	126.1 25.6	287 23.7
1		39 16.7	99.4 16.8	105.7 19	90.9 18.4	254.2 21
.5		17.2 7.4	72.1 12.2	71.1 12.8	67.5 13.7	206.4 17
.25		12.8 5.5	60.9 10.3	55.1 10	56.8 11.5	173.1 14.3
.125		7.6 3.2	32.8 5.5	29.8 5.4	32.3 6.6	87.5 7.2
.063		4.1 1.8	16.4 2.8	16.4 2.9	18.. 3.7	41.6 3.4
.063		3.2 1.4	11.6 1.9	10.8 1.9	12.7 2.6	36.7 3
TOTAL WT. OF SIEVED SAMPLE		234g	592.4g	555.3g	492.9g	1210g

Table 12

COLLECTOR NUMBER | 64+34/117C

ELEVATION 5142.83 Ft.
SLOPE 1.17:1
ASPECT 180
SLOPE SURFACE TREATMENT NO TREATMENT
ROCK WEATHERING CLASS 7
AREA 142.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8mm		2.3g 1.3				
4.75	11.2g 6.5	15.3 8.8	88.8g 8.4	16.7g 3.5	15.4g 3.5	20.6g 2.5
2	32.7 18.8	27.8 15.9	178 16.9	78.3 16.3	51 11.5	135.2 16.2
1	37.5 21.6	41.4 23.7	164.1 15.6	98.5 20.5	111.6 25.1	179.8 21.5
.5	29.3 16.9	29.1 16.6	196.4 18.6	100.8 21	115 25.8	213.8 25.6
.25	24.9 14.4	22.4 12.8	185.8 17.6	86.2 17.9	70.3 15.8	164.6 19.7
.125	15.9 9.2	17 9.7	106.7 10.1	49.1 10.2	37.7 8.5	62 7.4
.063	10.4 6	9.2 5.3	61.2 5.8	27.7 5.8	22.6 5.1	30.5 3.7
.063	10.5 6	10.2 5.8	73.8 7	23.3 4.8	21.5 4.8	25.6 3
TOTAL WT. OF SIEVED SAMPLE	172.4g	174.7g	1054.8g	480.6g	445.1g	832.1g

Table 13

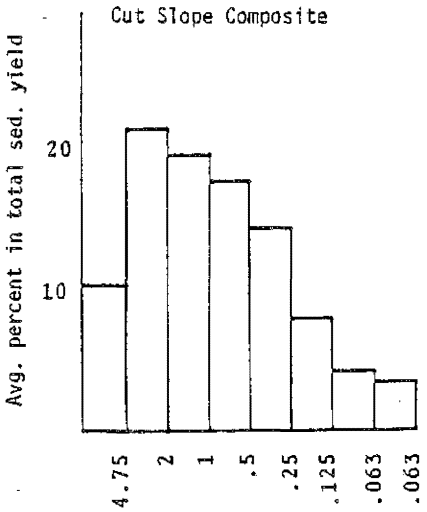

Cut Slope Composite
Avg. percent in total sed. yield
20
10
4.75
2
1
.5
.25
.125
.063
.063
Particle Size in mm.

Fig.55

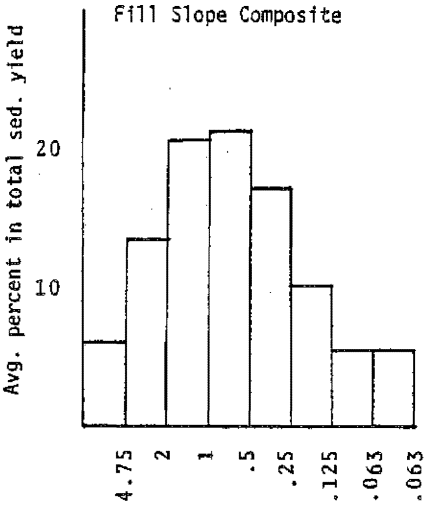

Fill Slope Composite
Avg. percent in total sed. yield
20
10
4.75
2
1
.5
.25
.125
.063
.063
Particle Size in mm.

Fig.56

56+56/2F

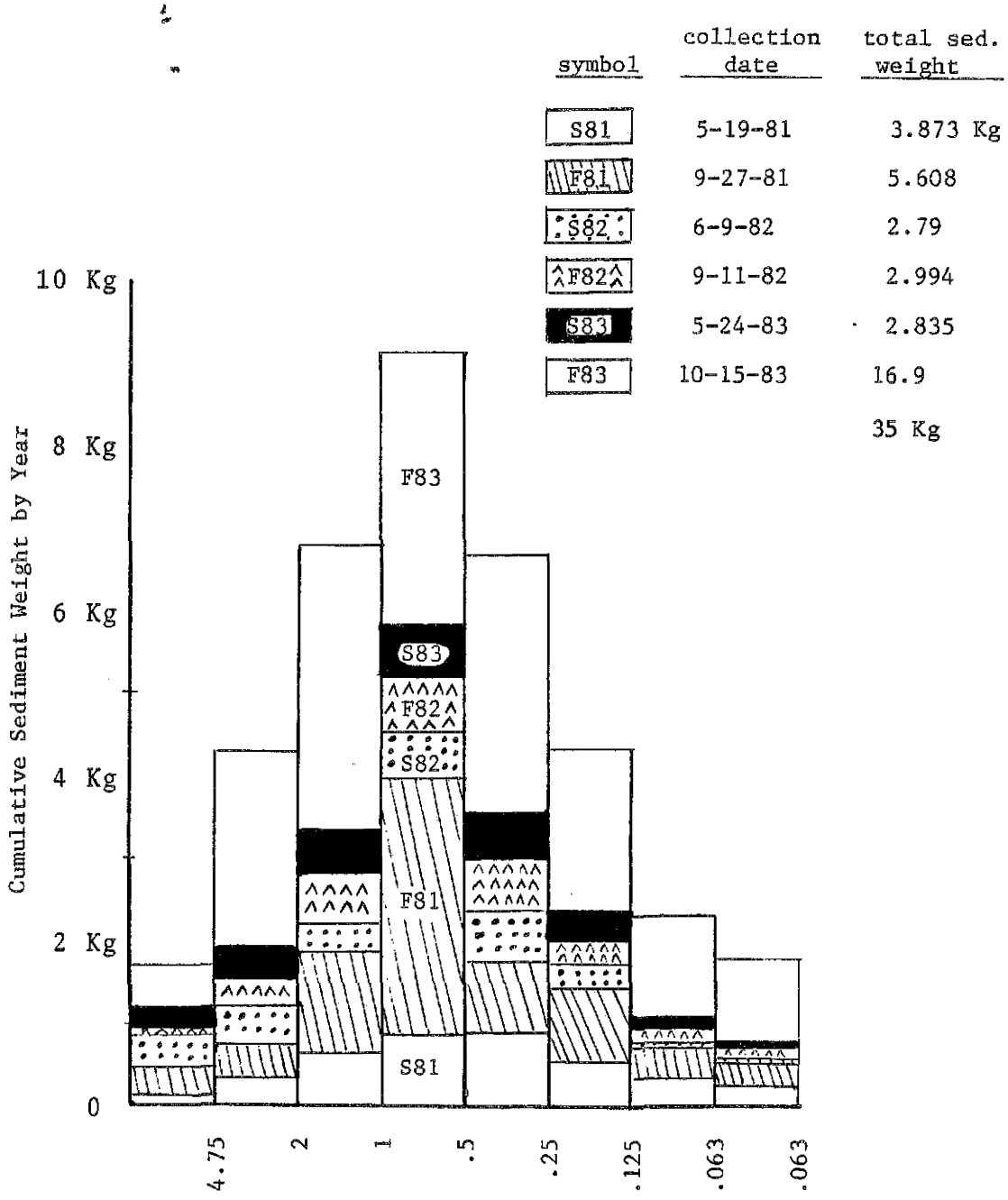


Fig.57 Sediment Particle Size in mm.

58+84/70F

symbol	collection date	total sed. weight
S81	5-19-81	26.892 Kg
F81	9-27-81	4.8381
S82	6-9-82	1.49
F82	9-11-82	0.808
S83	6-21-83	0.7724
F83	10-15-83	1.334
		36.13 Kg

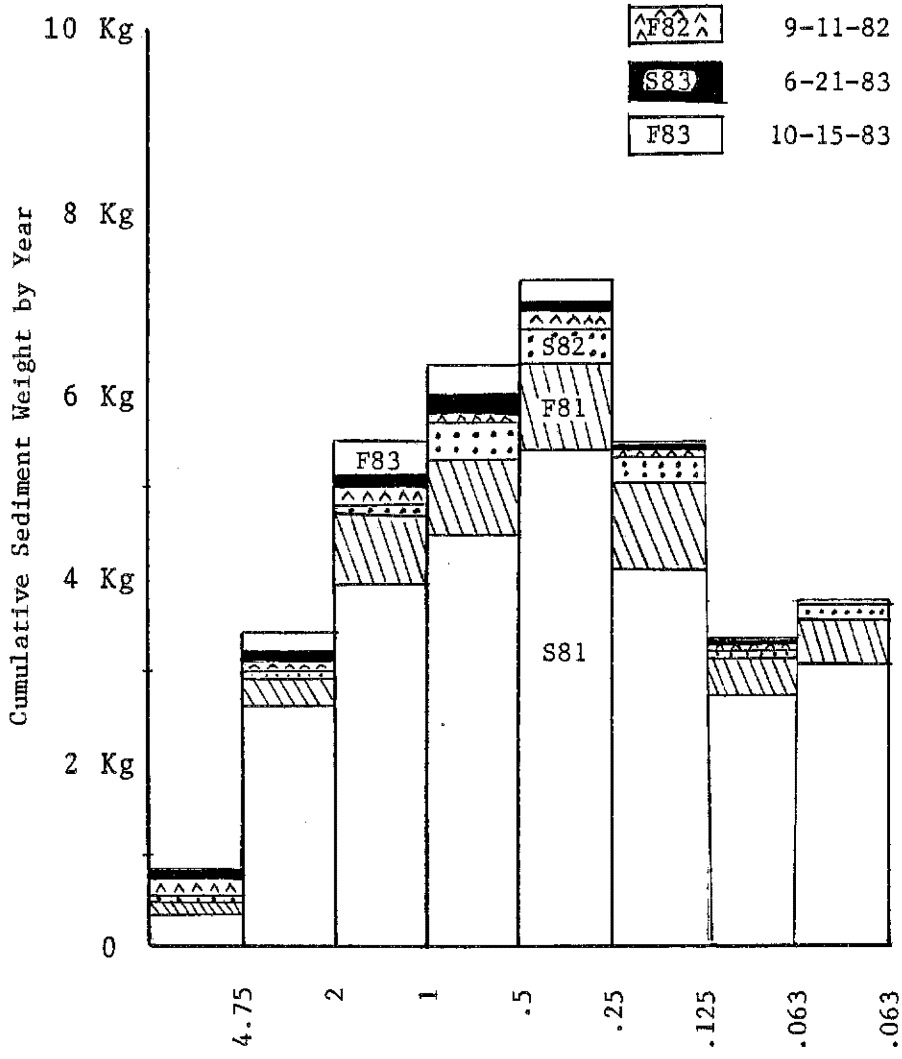


Fig.58 Sediment Particle Size in mm.

76+82/-12F

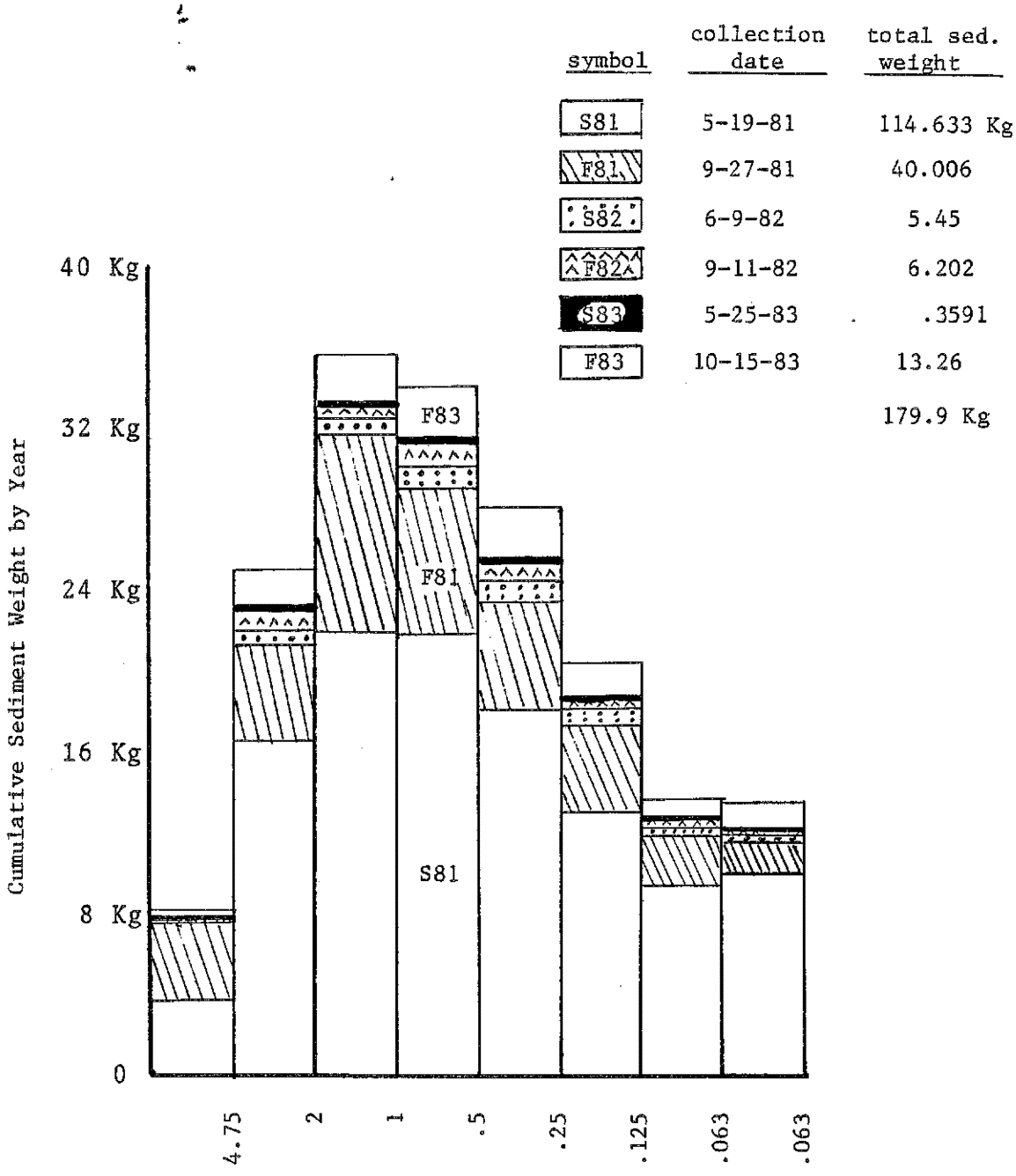


Fig.59

47+50/48F

collection date	total sed. weight
5-19-81	0.733 Kg
9-27-81	1.1755
6-9-82	0.032
9-11-82	0.211
5-24-83	0.286
10-15-83	0.281
	2.718 Kg

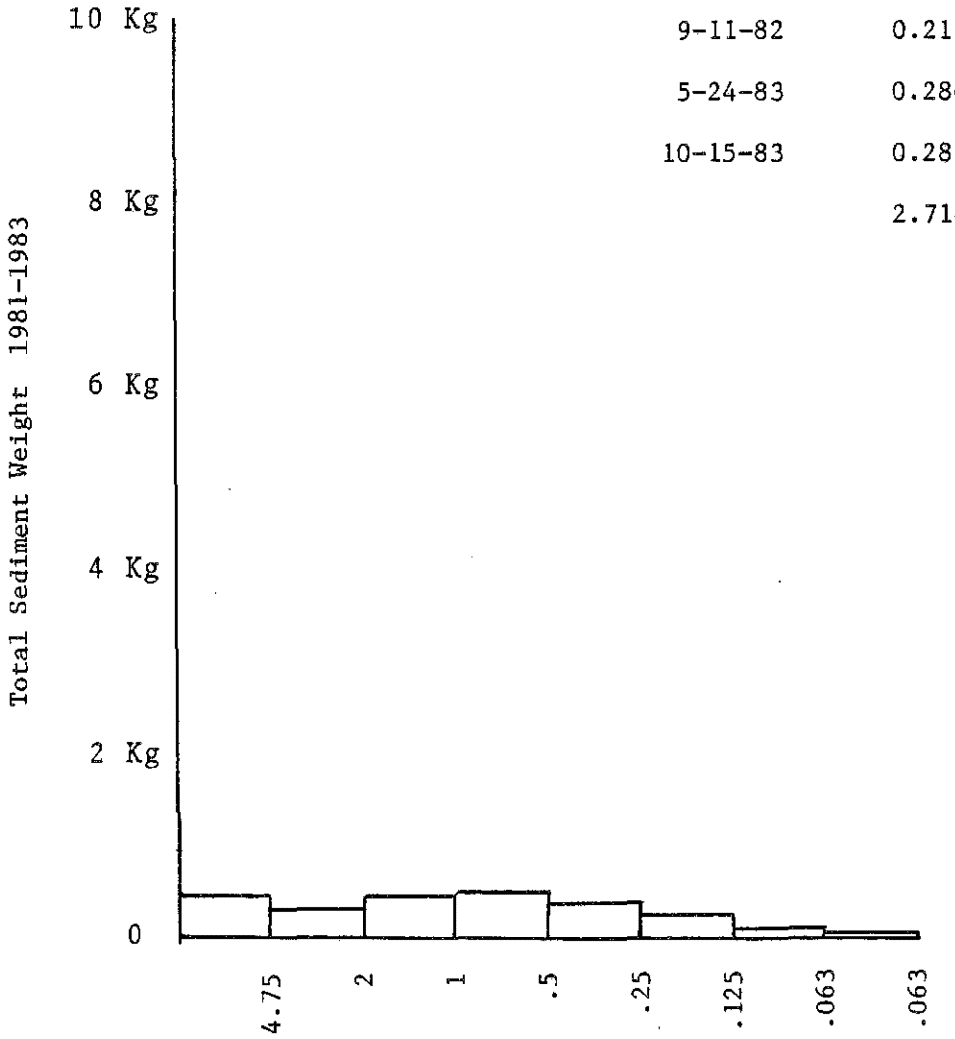


Fig.60

69+26/24F

collection date	total sed. weight
9-27-81	0.5805 Kg
6-9-82	1.762
9-11-82	1.373
5-24-83	1.01
10-15-81	4.11
	8.835 Kg

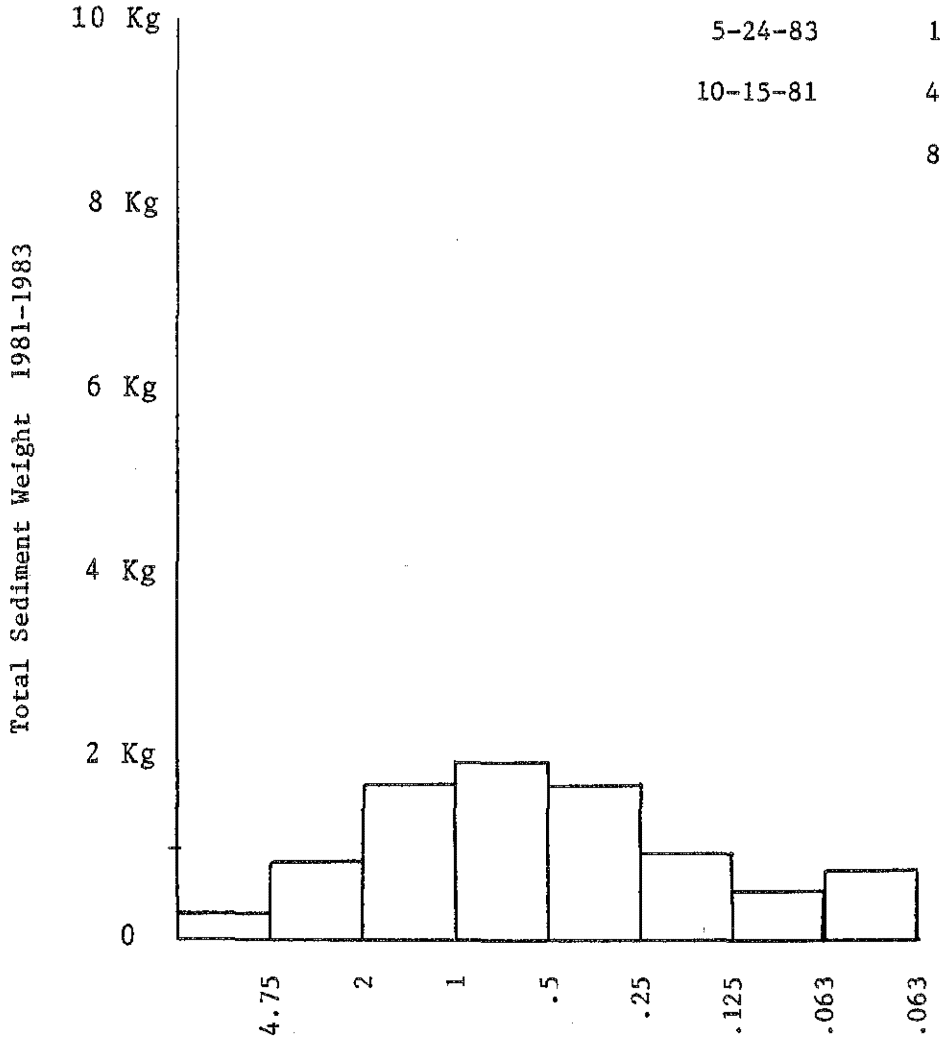


Fig.61

73+05/63F

collection date	total sed. weight
5-19-81	0.756 Kg
9-27-81	0.6851
6-9-82	0.332
9-11-82	0.924
5-25-83	0.469
10-15-83	5.143
	8.31 Kg

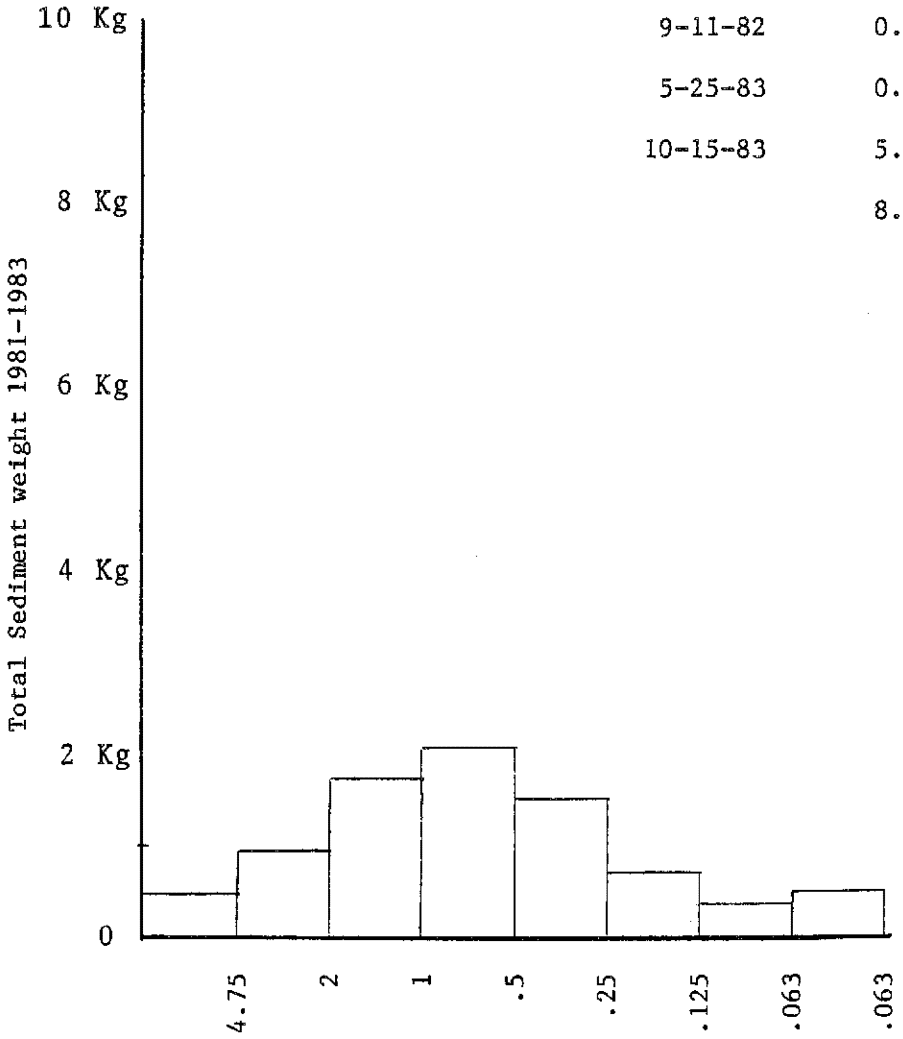


Fig.62 Sediment Particle Size in mm.

81+01/33F

collection date	total sed. weight
9-27-81	0.9885 Kg
9-11-82	0.54
5-25-83	0.8385
10-15-83	8.91
	11.277 Kg

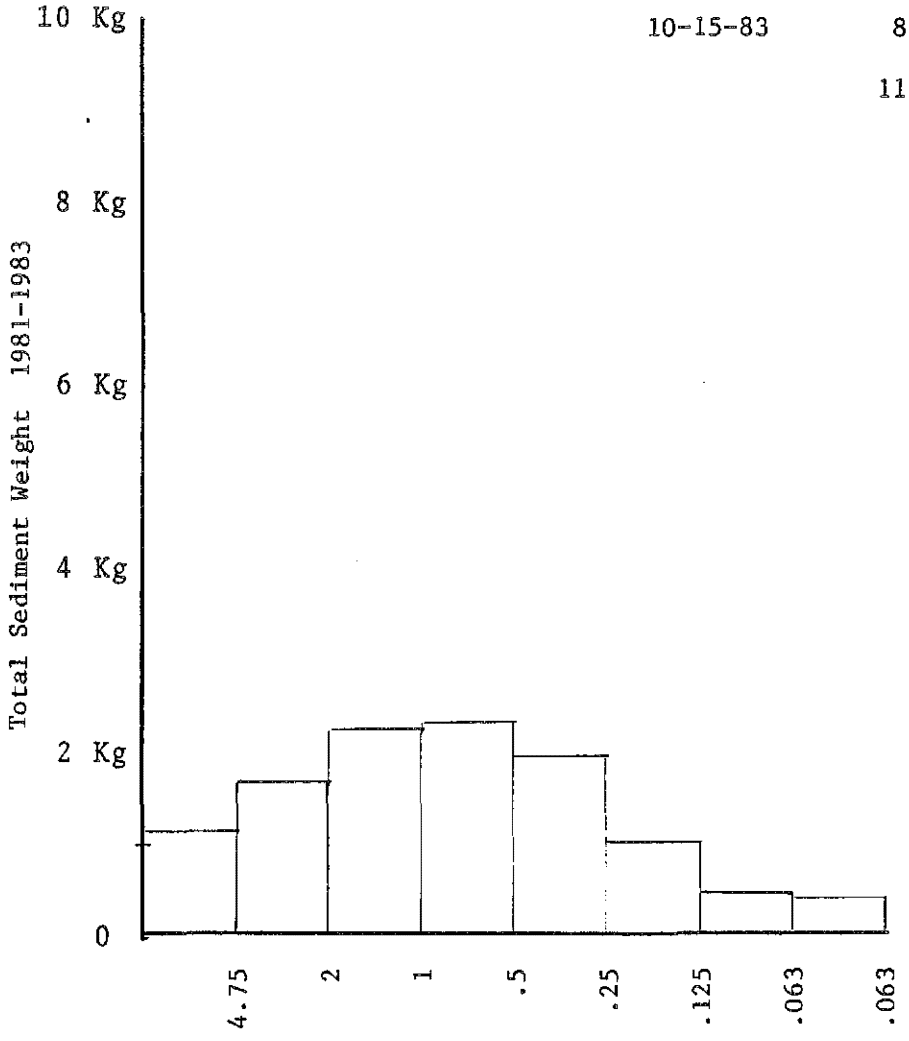


Fig.63

81+01/46F

collection date	total sed. weight
9-27-81	0.2183 Kg
9-11-82	1.024
5-25-83	0.2957
10-15-83	0.815
	2.353 Kg

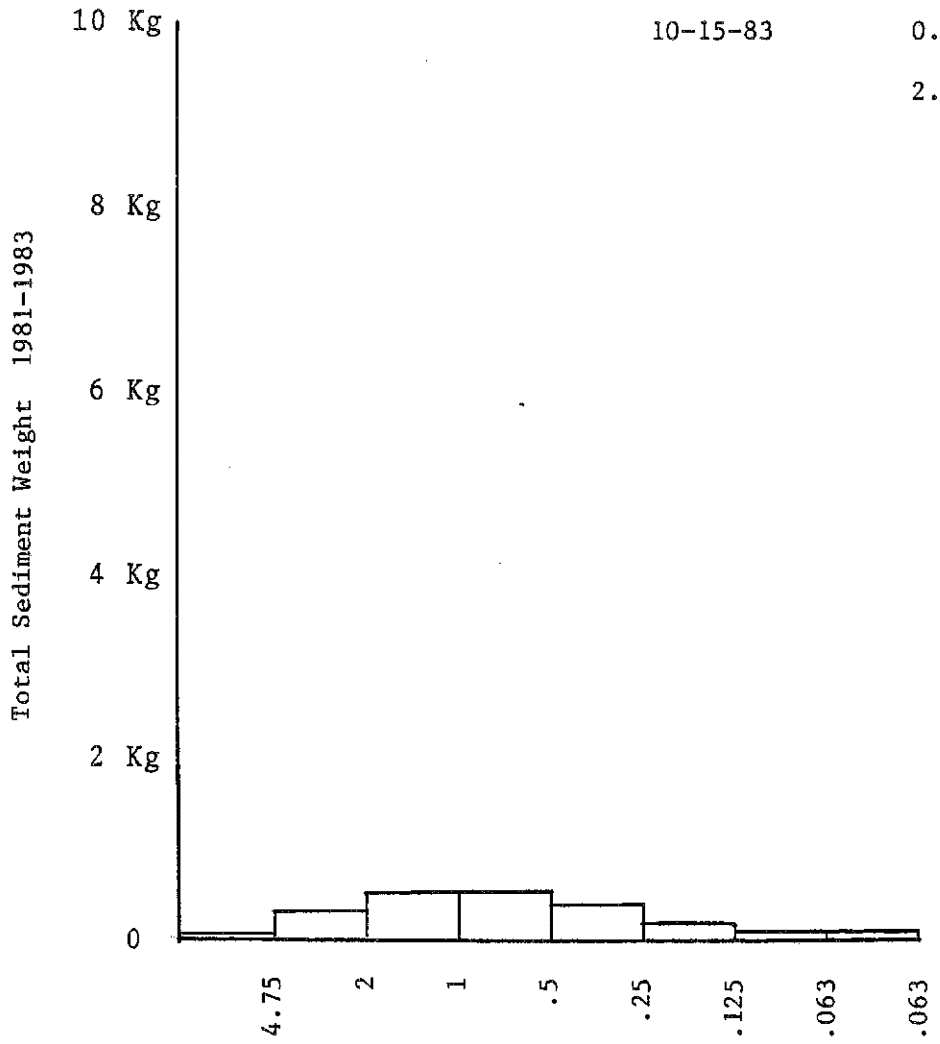


Fig.64

81+01/62F

collection date	total sed. weight
9-27-81	0.0724 Kg
6-9-82	0.206
9-11-82	0.103
5-25-83	1.388
10-15-83	0.528
	2.297 Kg

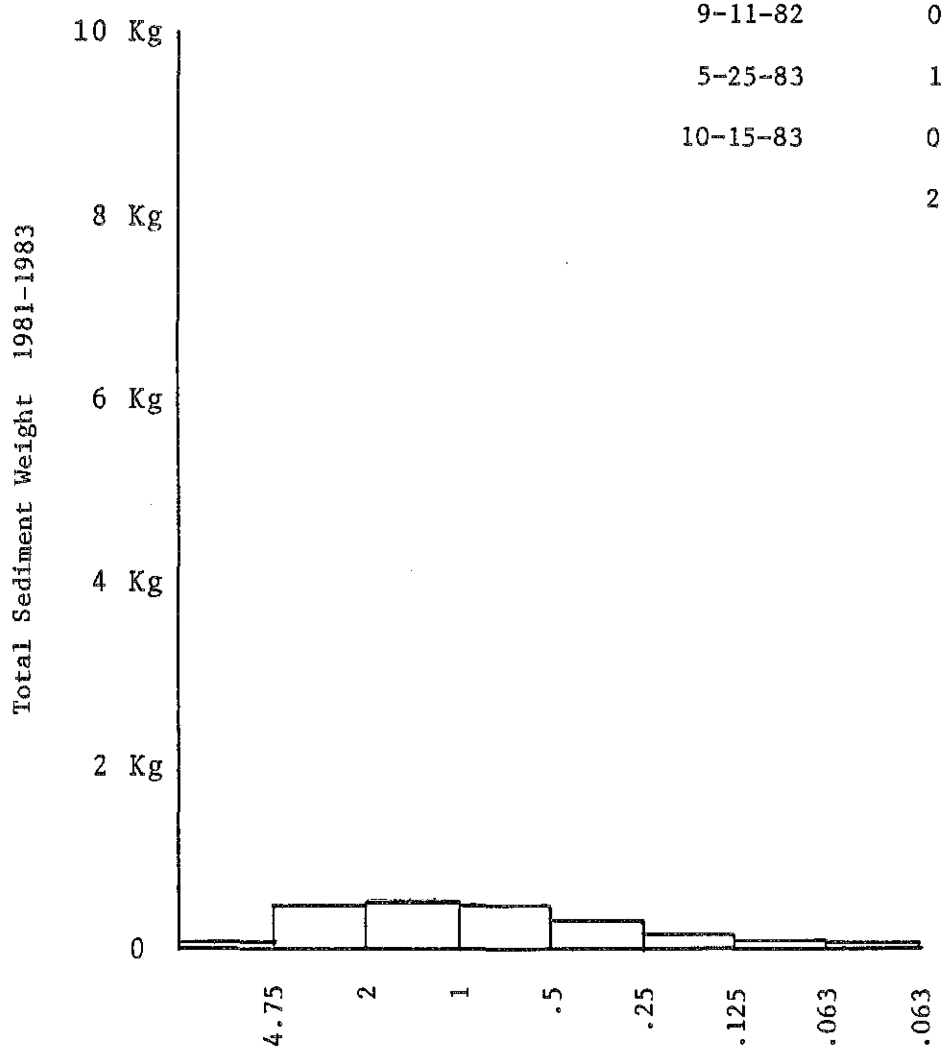


Fig.65

81+01/77F

collection date	total sed. weight
9-27-81	0.1451
6-9-82	0.47
9-11-82	0.818
5-25-83	0.4094
10-15-83	1.33
	3.172 Kg

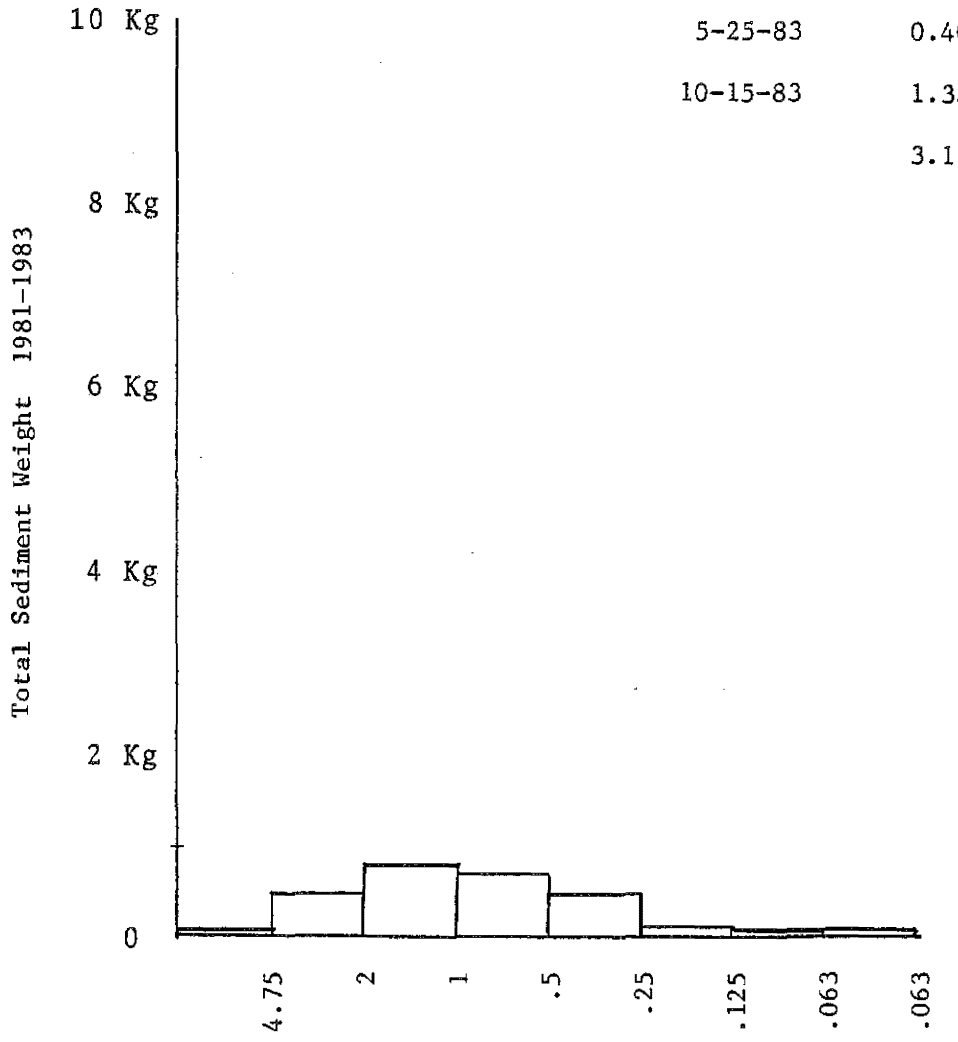


Fig.66 Sediment Particle Size in mm.

COLLECTOR NUMBER | 56+56/2F | PLOT #0

ELEVATION 5085.58 Ft.
SLOPE 1.50:1
ASPECT 188
CONSTRUCTION METHOD SIDE CAST + SURFACE ROLLING
SLOPE SURFACE TREATMENT SIDE CAST + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8 mm			2.6g	1.3								
4.75	8.6g	4.3	8.6	4.2	79g	13.2	31.9g	4.9	28.5g	8	21.8g	3
2	18.4	9	15.7	7.7	94.3	15.7	74.8	11.4	45.3	12.7	102.8	14
1	32.6	16.1	44.4	21.9	80.2	13.4	122	18.6	67.5	19	149.9	20.5
.5	43.8	21.6	41.7	20.5	116.7	19.5	151.1	23.1	79.4	22.3	142.6	19.5
.25	44.4	21.9	33.4	16.5	128.3	21.4	135	20.6	72.5	20.4	132	18.1
.125	28	13.8	31.7	15.6	65.7	11	71.6	10.9	39.3	11	85.9	11.8
.063	15.7	7.8	14	6.9	23.6	3.9	35.9	5.5	16.6	4.7	50.5	6.9
.063	10.8	5.3	10.9	5.4	11.5	1.9	32.3	4.9	6.2	1.7	44.6	6.1
TOTAL WT. OF SIEVED SAMPLE	202.3g		203g		599.3g		654.6g		355.3g		730.1g	

Table 14

COLLECTOR NUMBER 58+84/70F PLOT #01

ELEVATION 5097.22 Ft.
SLOPE 1.50:1
ASPECT 158
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8mm												
4.75	3g	1.4	5.3g	2.4	14.4g	2	250g	30.9	37.9g	4.9	20.2g	1.5
2	20.3	9.7	15.2	6.9	72.2	10	40.5	5	68.7	8.8	225	16.9
1	30.8	14.7	32.8	14.8	109.5	15.1	104.9	13	155.3	20	382.4	28.7
.5	35.2	16.9	37.7	17	151.5	20.9	136.8	16.9	221.2	28.5	326.9	24.5
.25	42.5	20.3	42.6	19.2	170.1	23.5	135	16.7	173.9	22.4	210.4	15.8
.125	31.7	15.2	45.7	20.6	103.9	14.3	77.1	9.5	78.1	10.1	92.6	6.9
.063	21.3	10.2	19.2	8.7	55	7.6	39	4.8	30.5	3.9	45.1	3.4
.063	24	11.5	23	10.4	48.2	6.6	25.1	3.1	10	1.3	31.5	2.4
TOTAL WT. OF SIEVED SAMPLE	208.8g		221.5g		724.8g		808.4g		775.6g		1334.1g	

Table 15

COLLECTOR NUMBER 76+82/-12F PLOT #39

ELEVATION 5196.86 Ft.
SLOPE 1.50:1
ASPECT 134
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8 mm		1g 0.4				
4.75	7.1g 3.3	19.8 9.3	18.7g 3.2	14g 2.5	18.9g 5.3	22.8g 1.8
2	30.8 14.5	25.2 11.8	84.2 14.3	106.9 16.5	58.4 16.3	189.8 15
1	40.8 19.2	51.2 23.9	107.9 18.3	133 20.5	80.7 22.5	259.6 20.5
.5	40.3 19	38.7 18.1	108.4 18.4	123 19	70.2 19.6	248.6 19.7
.25	33.6 15.8	27.9 13	110.8 18.8	117.3 18.1	61.3 17.1	250.7 19.9
.125	24.1 11.3	23.4 10.9	74.5 12.7	73.9 11.4	35 9.8	160.8 12.7
.063	17.4 8.2	13.4 6.3	44.4 7.5	42.4 6.5	20.5 5.7	81.4 6.5
.063	18.1 8.5	13.3 6.2	39.9 6.8	36.9 5.7	13.6 3.8	48.2 3.8
TOTAL WT. OF SIEVED SAMPLE	212.2g	213.9g	588.8g	647.4g	358.6g	1261.9g

Table 16

COLLECTOR NUMBER | 47+50/ 48F | PLOT # 4

ELEVATION 5001.89 Ft.
SLOPE 1.50:1
ASPECT 155
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + NET
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING 5/19/81		FALL 9/27/81		SPRING 6/9/82		FALL 9/11/82		SPRING 5/24/83		FALL 10/15/83	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8			9	5.1								
4.75	21.6	12.4	19.5	11	4	12.8	174.9	76.8	50.1	17.3	48.1	16.9
2	29.3	16.8	23.1	13.1	5.7	18.2	10.7	4.7	48.2	16.7	47.3	16.6
1	31.7	18.1	33.1	18.8	7.3	23.3	13.8	6.0	56.1	19.4	59.8	21.0
.5	32.7	18.7	33.4	18.9	6.0	19.2	11.2	4.9	52.4	18.1	56.7	19.6
.25	29.4	16.8	27.8	15.8	4.9	15.6	8.7	3.8	44.6	15.4	42.8	15
.125	16.5	9.4	18.8	10.6	2.3	7.3	5.0	2.2	24.0	8.3	18.7	6.6
.063	8.3	4.7	7.0	4.0	0.8	2.5	2.4	1.0	9.9	3.4	7.5	2.6
.063	5.3	3.0	4.7	2.7	0.3	0.9	1.1	0.5	3.6	1.2	3.2	1.1
TOTAL WT. OF SIEVED SAMPLE	174.8g		176.4g		31.3g		227.8g		288.9g		284.1g	

Table 17

COLLECTOR NUMBER 69+26/24F PLOT # 16

ELEVATION 5165.57 Ft.
SLOPE 1.50:1
ASPECT 140
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-10-81

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8mm			13.7g	5.2								
4.75			23	8.7	42.2g	4.5	22.7g	3.4	19.2g	1.9	12.6g	1.5
2			22.1	8.4	71.9	7.6	53.8	8.2	98.5	9.7	102.4	11.8
1			50.6	19.1	145.6	15.4	120	18.2	219.5	21.6	184.7	21.3
.5			64.7	24.5	214.3	22.7	133.3	20.2	256.3	25.2	182.8	21.1
.25			33.7	12.8	203.6	21.6	119.3	18.1	215.4	21.2	160.5	18.5
.125			34.3	13	116.3	12.3	68.8	10.4	103.5	10.2	89.9	10.4
.063			12.5	4.7	62.9	6.7	48.1	7.3	48.6	4.8	57.7	6.7
.063			9.7	3.7	87.1	9.2	92.3	14	54.1	5.3	76.4	8.8
TOTAL WT. OF SIEVED SAMPLE			264.3g		943.9g		658.3g		1015.1g		867g	

Table 18

COLLECTOR NUMBER | 73+05/63F | PLOT #0

ELEVATION 5166.27 Ft.
SLOPE 1.30:1
ASPECT 68
CONSTRUCTION METHOD SIDE CAST
SLOPE SURFACE TREATMENT SIDE CAST
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

PARTICLE SIZE	1981 COLLECTIONS				1982 COLLECTIONS				1983 COLLECTIONS			
	SPRING		FALL		SPRING		FALL		SPRING		FALL	
	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%	WT.	%
8 mm	3g	1.7										
4.75	6.4	3.7	7.7g	4.5	54.4g	16.2	101.6g	11	43.2	9.2	58	4.1
2	15	8.7	17.2	10	47.1	14	97.4	10.5	53.8	11.4	178.3	12.7
1	31.5	18.6	32	18.6	43.1	12.8	167.9	18.1	102.4	21.7	320.8	23
.5	44.7	26	43.9	25.4	65.5	19.6	199	21.5	119.7	25.4	364.6	26
.25	37.9	22	39.9	23.1	67.4	20	162.6	17.6	88.9	18.9	218.4	15.6
.125	22.5	13.1	20	11.6	34.1	10.1	85	9.2	37.3	7.9	108.6	7.8
.063	7	4	8.2	4.7	13.5	4	46.5	5	14.9	3.2	63.8	4.6
.063	3.6	2	4	2.3	8.5	2.5	65.5	7	10.7	2.3	86.2	6.2
TOTAL WT. OF SIEVED SAMPLE	171.6g		172.9g		336.6g		925.5g		470.9g		1398.7g	

Table 19

COLLECTOR NUMBER | 81+01/33F | PLOT #0

ELEVATION 5227.28 Ft.
SLOPE 1.50:1
ASPECT 50
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8mm						
4.75		46.1g 18.5		76.7g 13.9	121.3g 28	65.9 7.6
2		58.6 23.4		114.8 20.9	117.5 27.1	104.5 12.1
1		50.5 20.2		128 23.2	82.2 19	170.7 19.8
.5		44.1 17.6		99.9 18.2	50.4 11.6	184.6 21.4
.25		28.4 11.4		67 12.2	33.2 7.7	171.1 19.8
.125		12.1 4.8		30.7 5.6	16.3 3.8	90.7 10.5
.063		5.6 2.2		15.5 2.8	8.5 2	39.5 4.6
.063		4.4 1.8		17.7 3.2	4 0.9	35.4 4.1
TOTAL WT. OF SIEVED SAMPLE		249.8g		550.3g	433.4g	862.4g

Table 20

COLLECTOR NUMBER | 81+01/46F | PLOT # 0

ELEVATION 5227.28 Ft.
SLOPE 1.50:1
ASPECT 41
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED
AREA 90.00FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8 mm						
4.75		13.1g 6.1		21.8g 2.1	5.1g 1.7	19.8g 2.4
2		26.8 12.5		122 11.9	58.7 19.8	137 16.6
1		57.9 27		288.6 22.3	89.7 30.2	200.5 24.3
.5		56.2 26.2		241.6 23.5	70.4 23.7	201.3 24.4
.25		35.4 16.5		196.3 19.1	45.3 15.3	137.6 16.6
.125		14.7 6.9		104.4 10.2	17.1 5.8	64 7.7
.063		6.1 2.8		55.2 5.4	7.3 2.5	33.7 4
.063		4 1.9		56.4 5.5	3.3 1.1	32.3 3.9
TOTAL WT. OF SIEVED SAMPLE		214.2g		1026.3g	296.9g	826.2g

Table 21

COLLECTOR NUMBER | 81+01/62F | PLOT #0

ELEVATION 5227.28 Ft.
SLOPE 1.50:1
ASPECT 40
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8mm						
4.75		0.2g 0.2	4.4g 2.2	0.1g 0.09	48.9g7.5	22g 4.2
2		2.6 3.8	21.3 10.7	17.1 16	141.5 21.7	127.2 24
1		19.6 28.5	67.9 34	35.2 33	144.1 22	128.8 24.4
.5		23.2 33.8	53.3 26.7	25.1 23.5	117.6 18	98.6 18.6
.25		14.4 20.9	30 15	16 15	96.2 14.7	73.8 14
.125		6 8.7	11.7 5.9	7.5 7	54.8 8.4	41.3 7.8
.063		1.9 2.8	5.2 2.6	3.3 3.1	27.9 4.3	22.3 4.2
.063		0.8 1.2	5.8 2.9	2.3 2.2	21.7 3.3	14.5 2.7
TOTAL WT. OF SIEVED SAMPLE		68.7g	199.6g	106.6g	652.7g	528.5g

Table 22

COLLECTOR NUMBER | 81+01/77F | PLOT #0

ELEVATION 5227.28 Ft.
SLOPE 1.50:1
ASPECT 58
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

PARTICLE SIZE	1981 COLLECTIONS		1982 COLLECTIONS		1983 COLLECTIONS	
	SPRING	FALL	SPRING	FALL	SPRING	FALL
	WT. %	WT. %	WT. %	WT. %	WT. %	WT. %
8mm						
4.75		3.7g 2.6	9.4g 2	6.2g 0.7	9.6g 2.3	48g 3.9
2		8.2 5.8	53.3 11.4	109 13.2	93.6 22.6	251.9 20.4
1		37.8 27	145.4 31	192.4 23.4	116 28	283.1 23
.5		41.1 29.3	122.3 26.1	174.3 21.2	88.8 21.5	234.5 19
.25		29 20.7	74.7 15.9	137.4 16.7	60.3 14.6	180.4 14.6
.125		12.8 9.1	34.1 7.3	76.2 9.3	26.3 6.4	105.9 8.6
.063		5.1 3.6	15.6 3.3	48.4 5.9	10.4 2.5	65.4 5.3
.063		2.5 1.8	13.7 2.9	78.8 9.6	8.6 2	63.7 5.2
TOTAL WT. OF SIEVED SAMPLE		140.2g	468.5g	822.7g	413.6g	1232.9g

Table 23

Collector Number	Treatment Set #	Slope Angle	3 yr. Sed. Yield in Kg.	3 Year Total Particle Size %							
				4.75	2	1	.5	.25	.125	.063	.063
56+56/2F	4-R1	1.5:1	35	4.9	12.3	19.4	26	18.9	12.3	6.6	5.1
58+84/70F	4-R1	1.5:1	36.1	2.3	9.5	15.3	17.6	20.1	15.3	9.4	10.4
76+82/-12F	1-R1	1.5:1	179.9	4.5	14	20.3	18.5	15.6	11.3	7.5	7.4
47+50/48F	3-R1	1.5:1	2.7	19.9	14	17.9	17.7	15	9	3.7	2.2
69+26/24F	3-R2	1.5:1	8.8	3.2	9.9	19.5	22	19	10.9	6.4	8.9
73+05/63F	4	1.3:1	8.3	5.8	11.8	21.1	25.1	17.4	8.8	4.5	5.3
81+01/33F	1-R2	1.5:1	11.3	10.4	14.6	19.9	20.2	17.6	9.2	4.1	3.6
81+01/46F	1-R2	1.5:1	2.3	2.4	14.7	24.5	24.1	17.5	8.4	4.2	3.9
81+01/62F	1-R2	1.5:1	2.9	5.2	20.4	24.1	20	14.7	7.9	4	2.7
81+01/77F	1-R2	1.5:1	3.1	2.2	16.4	25.2	21.3	15.4	8.2	4.7	5.4
			Average %	6.1	13.8	20.7	21.3	17.1	10.1	5.5	5.5

Table 24

1

COLLECTOR NUMBER	36+79/130C
ELEVATION	4911.45
SLOPE	1.80:1
ASPECT	100
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	38.00 FT**2
DATE OF COLLECTOR INSTALLATION	08-02-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	56.0000	0.0057	0.0469
06-09-82	256.0000	0.3570	0.6432
09-11-82	91.0000	0.2790	1.4140
05-23-83	254.0000	0.9848	1.7882
10-15-83	145.0000	0.6300	2.0039
TOTAL AVERAGE YIELD OF SEDIMENT			1.1792
AVERAGE YIELD DURING SPRING COLLECTIONS			1.2157
AVERAGE YIELD DURING FALL COLLECTIONS			1.1549

2

COLLECTOR NUMBER	36+79/ 35C
ELEVATION	4911.45
SLOPE	1.10:1
ASPECT	190
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	73.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	82.0000	0.0221	0.0647
06-09-82	256.0000	0.4080	0.3826
09-11-82	91.0000	0.4770	1.2584
05-23-83	254.0000	0.4810	0.4546
10-15-83	145.0000	0.9500	1.5729
TOTAL AVERAGE YIELD OF SEDIMENT			0.7467
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4186
AVERAGE YIELD DURING FALL COLLECTIONS			0.9654

3

COLLECTOR NUMBER	36+79/ 21C
ELEVATION	4911.45
SLOPE	1.16:1
ASPECT	200
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	65.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	82.0000	0.0028	0.0092
06-09-82	256.0000	0.3900	0.4083
09-11-82	91.0000	0.9880	2.9095
05-23-83	254.0000	0.5224	0.5512
10-15-83	145.0000	2.2600	4.1768
TOTAL AVERAGE YIELD OF SEDIMENT			1.6110
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4797
AVERAGE YIELD DURING FALL COLLECTIONS			2.3651

4

COLLECTOR NUMBER	39+72/ 40C
ELEVATION	4911.45
SLOPE	1.61:1
ASPECT	100
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	72.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-16-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	73.0000	0.0014	0.0047
06-09-82	256.0000	0.0640	0.0609
09-11-82	91.0000	0.3630	0.9710
05-23-83	254.0000	0.2240	0.2147
10-15-83	145.0000	0.2750	0.4616
TOTAL AVERAGE YIELD OF SEDIMENT			0.3426
AVERAGE YIELD DURING SPRING COLLECTIONS			0.1378
AVERAGE YIELD DURING FALL COLLECTIONS			0.4791

5

COLLECTOR NUMBER	39+72/ 30C
ELEVATION	4911.45
SLOPE	1.45:1
ASPECT	90
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	56.40 FT**2
DATE OF COLLECTOR INSTALLATION	08-02-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	56.0000	0.0000	0.0000
06-09-82	256.0000	0.0400	0.0486
09-11-82	91.0000	0.1840	0.6283
05-23-83	254.0000	0.0104	0.0127
10-15-83	145.0000	0.1690	0.3622
TOTAL AVERAGE YIELD OF SEDIMENT			0.2104
AVERAGE YIELD DURING SPRING COLLECTIONS			0.0306
AVERAGE YIELD DURING FALL COLLECTIONS			0.3302

6

COLLECTOR NUMBER	41+21/120C
ELEVATION	4937.87
SLOPE	1.06:1
ASPECT	80
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	59.20 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	74.0000	0.0387	0.1548
06-09-82	256.0000	0.2470	0.2856
09-11-82	91.0000	0.4140	1.3468
05-23-83	254.0000	0.3362	0.3919
10-15-83	145.0000	0.6340	1.2944
TOTAL AVERAGE YIELD OF SEDIMENT			0.6947
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3387
AVERAGE YIELD DURING FALL COLLECTIONS			0.9320

7

COLLECTOR NUMBER	41+21/ 85C
ELEVATION	4937.87
SLOPE	1.19:1
ASPECT	60
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	69.20 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	74.0000	0.0271	0.0927
06-09-82	256.0000	0.1130	0.1118
09-11-82	91.0000	0.1850	0.5149
05-23-83	254.0000	0.0894	0.0891
10-15-83	145.0000	0.4970	0.8681
TOTAL AVERAGE YIELD OF SEDIMENT			0.3353
AVERAGE YIELD DURING SPRING COLLECTIONS			0.1005
AVERAGE YIELD DURING FALL COLLECTIONS			0.4919

8

COLLECTOR NUMBER	41+21/ 68C
ELEVATION	4937.87
SLOPE	1.33:1
ASPECT	55
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	54.20 FT**2
DATE OF COLLECTOR INSTALLATION	08-02-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	56.0000	0.1256	0.7252
06-09-82	256.0000	0.1320	0.1667
09-11-82	91.0000	0.4190	1.4889
05-23-83	254.0000	0.3334	0.4244
10-15-83	145.0000	2.3600	5.2629
TOTAL AVERAGE YIELD OF SEDIMENT			1.6136
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2956
AVERAGE YIELD DURING FALL COLLECTIONS			2.4923

9

COLLECTOR NUMBER	41+21/ 60C
ELEVATION	4937.87
SLOPE	1.17:1
ASPECT	50
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	63.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	75.0000	0.3400	1.2492
06-09-82	256.0000	0.1050	0.1130
09-11-82	91.0000	0.1930	0.5844
05-23-83	254.0000	0.0824	0.0894
10-15-83	145.0000	0.3660	0.6956
TOTAL AVERAGE YIELD OF SEDIMENT			0.5463
AVERAGE YIELD DURING SPRING COLLECTIONS			0.1012
AVERAGE YIELD DURING FALL COLLECTIONS			0.8431

10

COLLECTOR NUMBER	41+21/ 5C
ELEVATION	4937.87
SLOPE	1.17:1
ASPECT	40
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	47.80 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	75.0000	0.0096	0.0469
06-09-82	256.0000	0.0360	0.0516
09-11-82	91.0000	0.1080	0.4351
05-23-83	254.0000	0.0351	0.0507
10-15-83	145.0000	0.1500	0.3793
TOTAL AVERAGE YIELD OF SEDIMENT			0.1927
AVERAGE YIELD DURING SPRING COLLECTIONS			0.0511
AVERAGE YIELD DURING FALL COLLECTIONS			0.2871

11

COLLECTOR NUMBER	43+40/100C
ELEVATION	4957.38
SLOPE	1.20:1
ASPECT	30
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	92.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	74.0000	0.0059	0.0151
06-09-82	256.0000	0.0910	0.0673
09-11-82	91.0000	0.2420	0.5033
05-23-83	254.0000	0.1801	0.1342
10-15-83	145.0000	0.5720	0.7466
TOTAL AVERAGE YIELD OF SEDIMENT			0.2933
AVERAGE YIELD DURING SPRING COLLECTIONS			0.1007
AVERAGE YIELD DURING FALL COLLECTIONS			0.4217

12

COLLECTOR NUMBER	43+40/ 30C
ELEVATION	4957.38
SLOPE	1.00:1
ASPECT	50
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	133.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	74.0000	0.5016	0.8932
06-09-82	256.0000	2.9690	1.5283
09-11-82	91.0000	2.8550	4.1342
06-07-83	254.0000	2.9910	1.5517
10-15-83	145.0000	19.6000	17.8122
TOTAL AVERAGE YIELD OF SEDIMENT			5.1839
AVERAGE YIELD DURING SPRING COLLECTIONS			1.5400
AVERAGE YIELD DURING FALL COLLECTIONS			7.6132

13

COLLECTOR NUMBER	45+40/ 52C
ELEVATION	4957.38
SLOPE	1.06:1
ASPECT	40
SLOPE SURFACE TREATMENT	DRY SEEDING
ROCK WEATHERING CLASS	6
AREA	124.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	74.0000	0.3365	0.6427
06-09-82	256.0000	0.7250	0.4003
09-11-82	91.0000	1.6480	2.5596
05-23-83	254.0000	1.4920	0.8302
10-15-83	145.0000	11.3100	11.0243
TOTAL AVERAGE YIELD OF SEDIMENT			3.0914
AVERAGE YIELD DURING SPRING COLLECTIONS			0.6152
AVERAGE YIELD DURING FALL COLLECTIONS			4.7422

14

COLLECTOR NUMBER	47+31/ 75C
ELEVATION	4999.29
SLOPE	1.20:1
ASPECT	60
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	5
AREA	103.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	1.6072	3.6463
06-09-82	256.0000	3.3840	2.2492
09-11-82	91.0000	6.4490	12.0585
05-17-83	248.0000	7.6770	5.2672
10-15-83	151.0000	35.9000	40.4539
TOTAL AVERAGE YIELD OF SEDIMENT			12.7350
AVERAGE YIELD DURING SPRING COLLECTIONS			3.7582
AVERAGE YIELD DURING FALL COLLECTIONS			18.7196

15

COLLECTOR NUMBER	47+31/ 40C
ELEVATION	4999.29
SLOPE	1.08:1
ASPECT	90
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	5
AREA	89.20 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	75.0000	1.8698	4.8983
06-09-82	256.0000	18.4200	14.1373
09-11-82	91.0000	16.2800	35.1502
05-17-83	248.0000	12.5800	9.9665
10-15-83	151.0000	33.4900	43.5767
TOTAL AVERAGE YIELD OF SEDIMENT			21.5458
AVERAGE YIELD DURING SPRING COLLECTIONS			12.0519
AVERAGE YIELD DURING FALL COLLECTIONS			27.8751

16

COLLECTOR NUMBER	49+26/108C
ELEVATION	5018.50
SLOPE	1.36:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	39.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	75.0000	0.2187	1.2971
06-09-82	256.0000	1.0690	1.8575
09-11-82	91.0000	1.0070	4.9223
05-17-83	248.0000	1.4470	2.5954
10-15-83	151.0000	3.2600	9.6034
TOTAL AVERAGE YIELD OF SEDIMENT			4.0551
AVERAGE YIELD DURING SPRING COLLECTIONS			2.2264
AVERAGE YIELD DURING FALL COLLECTIONS			5.2743

17

COLLECTOR NUMBER	49+26/ 60C
ELEVATION	5018.50
SLOPE	1.36:1
ASPECT	210
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	71.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	78.0000	0.0057	0.0179
06-09-82	256.0000	0.2970	0.2848
09-11-82	91.0000	0.3755	1.0129
05-17-83	248.0000	0.5061	0.5009
10-15-83	151.0000	6.7300	10.9401
TOTAL AVERAGE YIELD OF SEDIMENT			2.5513
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3928
AVERAGE YIELD DURING FALL COLLECTIONS			3.9903

18

COLLECTOR NUMBER	49+26/ 18C
ELEVATION	5018.50
SLOPE	1.31:1
ASPECT	230
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	89.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-14-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	75.0000	0.3007	0.7895
06-09-82	256.0000	2.2500	1.7307
09-11-82	91.0000	5.0000	10.8198
05-17-83	248.0000	5.1790	4.1123
10-15-83	151.0000	60.8000	79.2897
TOTAL AVERAGE YIELD OF SEDIMENT			19.3484
AVERAGE YIELD DURING SPRING COLLECTIONS			2.9215
AVERAGE YIELD DURING FALL COLLECTIONS			30.2997

19

COLLECTOR NUMBER	50+31/ 10C
ELEVATION	5028.56
SLOPE	1.09:1
ASPECT	210
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	101.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-16-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	73.0000	14.2351	33.6375
06-09-82	256.0000	30.7400	20.7134
09-11-82	91.0000	26.4100	50.0626
05-16-83	247.0000	42.9180	29.9729
10-15-83	152.0000	51.6000	58.5589
TOTAL AVERAGE YIELD OF SEDIMENT			38.5891
AVERAGE YIELD DURING SPRING COLLECTIONS			25.3431
AVERAGE YIELD DURING FALL COLLECTIONS			47.4197

20

COLLECTOR NUMBER	52+19/130C
ELEVATION	5040.86
SLOPE	1.17:1
ASPECT	210
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	155.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-20-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27-81	69.0000	6.9655	11.3704
06-09-82	256.0000	52.3700	23.0416
09-11-82	91.0000	31.3100	38.7536
05-16-83	247.0000	46.0000	20.9764
10-15-83	152.0000	69.2800	51.3375
TOTAL AVERAGE YIELD OF SEDIMENT			29.0959
AVERAGE YIELD DURING SPRING COLLECTIONS			22.0090
AVERAGE YIELD DURING FALL COLLECTIONS			33.8205

21

COLLECTOR NUMBER	52+19/ 50C
ELEVATION	5046.86
SLOPE	1.13:1
ASPECT	210
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	134.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-20-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	68.0000	5.0902	9.7904
06-09-82	256.0000	57.0500	29.1468
09-11-82	91.0000	29.1490	41.8946
05-16-83	247.0000	58.3700	30.9078
10-15-83	152.0000	79.9000	68.7510
TOTAL AVERAGE YIELD OF SEDIMENT			36.0981
AVERAGE YIELD DURING SPRING COLLECTIONS			30.0273
AVERAGE YIELD DURING FALL COLLECTIONS			40.1453

22

COLLECTOR NUMBER	53+30/ 99C
ELEVATION	5058.36
SLOPE	1.02:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	114.60 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	101.9000	99.8954
09-26-81	152.0000	22.0786	22.2138
06-09-82	256.0000	52.0800	31.1119
09-11-82	91.0000	15.3600	25.8134
05-16-83	247.0000	51.9000	32.1341
10-15-83	152.0000	35.0000	35.2144
TOTAL AVERAGE YIELD OF SEDIMENT			41.0638
AVERAGE YIELD DURING SPRING COLLECTIONS			54.3804
AVERAGE YIELD DURING FALL COLLECTIONS			27.7472

23

COLLECTOR NUMBER	53+30/ 75C
ELEVATION	5058.36
SLOPE	1.02:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	113.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	115.8000	115.1293
09-26-81	152.0000	0.6760	0.6898
06-09-82	256.0000	58.0900	35.1936
09-11-82	91.0000	14.8100	25.2415
05-16-83	247.0000	70.4800	44.2559
10-15-83	152.0000	38.2000	38.9782
TOTAL AVERAGE YIELD OF SEDIMENT			43.2480
AVERAGE YIELD DURING SPRING COLLECTIONS			64.8596
AVERAGE YIELD DURING FALL COLLECTIONS			21.6365

24

COLLECTOR NUMBER	53+30/ 63C
ELEVATION	5058.36
SLOPE	1.02:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	106.40 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	97.3000	102.7371
09-26-81	152.0000	2.8825	3.1237
06-09-82	256.0000	78.5200	50.5219
09-11-82	91.0000	12.9200	23.3862
05-16-83	247.0000	52.5200	35.0241
10-15-83	152.0000	25.5600	27.6985
TOTAL AVERAGE YIELD OF SEDIMENT			40.4152
AVERAGE YIELD DURING SPRING COLLECTIONS			62.7610
AVERAGE YIELD DURING FALL COLLECTIONS			18.0695

26

COLLECTOR NUMBER	53+30/ 33C
ELEVATION	5058.36
SLOPE	1.28:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	50.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	86.2000	193.6837
09-26-81	152.0000	6.6030	15.2268
06-09-82	256.0000	28.1400	38.5296
09-11-82	91.0000	4.9800	19.1822
05-16-83	247.0000	32.6100	46.2769
10-15-83	152.0000	17.5300	40.4249
TOTAL AVERAGE YIELD OF SEDIMENT			58.8873
AVERAGE YIELD DURING SPRING COLLECTIONS			92.8301
AVERAGE YIELD DURING FALL COLLECTIONS			24.9446

26

COLLECTOR NUMBER	57+75/271C
ELEVATION	5091.77
SLOPE	1.21:1
ASPECT	150
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	53.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-23-81	152.0000	80.8390	175.8660
09-26-81	156.0000	12.9626	27.4772
06-09-82	256.0000	29.4900	38.0925
09-11-82	91.0000	15.3200	55.6701
05-16-83	247.0000	0.8045	1.0770
10-15-83	152.0000	32.6000	70.9216
TOTAL AVERAGE YIELD OF SEDIMENT			61.5173
AVERAGE YIELD DURING SPRING COLLECTIONS			71.6785
AVERAGE YIELD DURING FALL COLLECTIONS			51.3563

27

COLLECTOR NUMBER	57+75/250C
ELEVATION	5091.77
SLOPE	1.02:1
ASPECT	140
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	89.20 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-23-81	152.0000	93.9000	121.3774
09-26-81	155.0000	19.7413	25.0242
06-09-82	256.0000	66.3900	50.9540
09-11-82	91.0000	17.3600	37.4821
05-16-83	247.0000	64.2200	51.0845
10-15-83	152.0000	52.0000	67.2165
TOTAL AVERAGE YIELD OF SEDIMENT			58.8564
AVERAGE YIELD DURING SPRING COLLECTIONS			74.4720
AVERAGE YIELD DURING FALL COLLECTIONS			43.2409

28

COLLECTOR NUMBER	57+75/234C
ELEVATION	5091.77
SLOPE	0.95:1
ASPECT	120
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	95.40 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-23-81	152.0000	150.6000	182.0177
09-26-81	155.0000	33.8696	40.1431
06-09-82	256.0000	142.9200	102.5617
09-11-82	91.0000	26.4000	53.2960
05-16-83	247.0000	129.8600	96.5852
10-15-83	152.0000	70.8000	85.5701
TOTAL AVERAGE YIELD OF SEDIMENT			93.3623
AVERAGE YIELD DURING SPRING COLLECTIONS			127.0548
AVERAGE YIELD DURING FALL COLLECTIONS			59.6697

29

COLLECTOR NUMBER	57+75/19SC
ELEVATION	5091.77
SLOPE	1.00:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	138.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	226.5000	184.3932
09-26-81	152.0000	65.3629	54.6121
06-09-82	256.0000	100.5980	49.9058
09-11-82	91.0000	7.7500	10.8159
05-16-83	247.0000	35.6200	18.3146
10-15-83	152.0000	64.2800	53.7073
TOTAL AVERAGE YIELD OF SEDIMENT			61.9580
AVERAGE YIELD DURING SPRING COLLECTIONS			84.2045
AVERAGE YIELD DURING FALL COLLECTIONS			39.7118

30

COLLECTOR NUMBER	57+75/132C
ELEVATION	5091.77
SLOPE	1.15:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	121.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	156.0000	159.1000	146.9915
09-26-81	152.0000	17.1672	16.2781
06-09-82	256.0000	42.7500	24.0681
09-11-82	91.0000	23.7300	37.5840
05-16-83	247.0000	20.5190	11.9731
10-15-83	145.0000	79.4000	78.9222
TOTAL AVERAGE YIELD OF SEDIMENT			52.6361
AVERAGE YIELD DURING SPRING COLLECTIONS			61.0109
AVERAGE YIELD DURING FALL COLLECTIONS			44.2614

31

COLLECTOR NUMBER	57+75/ 57C
ELEVATION	5091.77
SLOPE	0.95:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	130.60 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	156.0000	230.4000	198.1960
09-26-81	152.0000	33.9963	30.0141
06-09-82	256.0000	105.4400	55.2717
09-11-82	91.0000	37.0000	54.5629
05-16-83	247.0000	126.4600	68.7058
10-15-83	152.0000	125.1000	110.4462
TOTAL AVERAGE YIELD OF SEDIMENT			86.1994
AVERAGE YIELD DURING SPRING COLLECTIONS			107.3911
AVERAGE YIELD DURING FALL COLLECTIONS			65.0077

32

COLLECTOR NUMBER	59+91/106C
ELEVATION	5103.91
SLOPE	1.00:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	91.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	16.9000	20.7313
09-26-81	151.0000	7.5177	9.5884
06-09-82	256.0000	8.3760	6.3014
09-11-82	91.0000	3.9680	8.3979
05-16-83	247.0000	9.9490	7.7575
10-15-83	152.0000	17.9000	22.6803
TOTAL AVERAGE YIELD OF SEDIMENT			12.5761
AVERAGE YIELD DURING SPRING COLLECTIONS			11.5967
AVERAGE YIELD DURING FALL COLLECTIONS			13.5555

33

COLLECTOR NUMBER	59+91/ 85C
ELEVATION	5103.91
SLOPE	0.95:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	126.40 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	44.9000	39.6534
09-26-81	151.0000	17.4465	16.0201
06-09-82	256.0000	21.7800	11.7965
09-11-82	91.0000	19.3500	29.4831
05-16-83	247.0000	24.2000	13.5848
10-15-83	152.0000	44.3000	40.4104
TOTAL AVERAGE YIELD OF SEDIMENT			25.1580
AVERAGE YIELD DURING SPRING COLLECTIONS			21.6782
AVERAGE YIELD DURING FALL COLLECTIONS			28.6379

34

COLLECTOR NUMBER	59+91/ 34C
ELEVATION	5103.91
SLOPE	0.95:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	117.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	161.9700	153.4865
09-26-81	151.0000	20.4884	20.1867
06-09-82	256.0000	91.3600	53.0947
09-11-82	91.0000	25.7000	42.0172
05-16-83	247.0000	144.2900	86.9109
10-15-83	152.0000	90.9000	88.9724
TOTAL AVERAGE YIELD OF SEDIMENT			74.1114
AVERAGE YIELD DURING SPRING COLLECTIONS			97.8306
AVERAGE YIELD DURING FALL COLLECTIONS			50.3921

35

COLLECTOR NUMBER	59+91/ 7C
ELEVATION	5103.91
SLOPE	1.04:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	61.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	52.3400	94.5423
09-26-81	151.0000	5.0326	9.4516
06-09-82	256.0000	4.8370	5.3683
09-11-82	91.0000	7.7500	24.1519
05-16-83	247.0000	5.2900	6.0737
10-15-83	145.0000	17.2000	33.6397
TOTAL AVERAGE YIELD OF SEDIMENT			28.8696
AVERAGE YIELD DURING SPRING COLLECTIONS			35.3247
AVERAGE YIELD DURING FALL COLLECTIONS			22.4144

36

COLLECTOR NUMBER	62+03/138C
ELEVATION	5122.00
SLOPE	1.38:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	121.20 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-27-81	157.0000	9.0700	8.3538
09-26-81	151.0000	0.8773	0.8401
06-09-82	256.0000	0.8740	0.4937
09-11-82	91.0000	1.3080	2.0785
05-16-83	247.0000	0.9446	0.5630
10-15-83	152.0000	25.7900	24.5350
TOTAL AVERAGE YIELD OF SEDIMENT			6.1423
AVERAGE YIELD DURING SPRING COLLECTIONS			3.1335
AVERAGE YIELD DURING FALL COLLECTIONS			9.1512

37

COLLECTOR NUMBER	62+03/126C
ELEVATION	5122.00
SLOPE	1.17:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	138.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	0.0412	0.0698
06-09-82	256.0000	0.1880	0.0933
09-11-82	91.0000	0.5620	0.7843
05-16-83	247.0000	0.6840	0.3517
10-15-83	145.0000	19.7000	17.2544
TOTAL AVERAGE YIELD OF SEDIMENT			3.7107
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2225
AVERAGE YIELD DURING FALL COLLECTIONS			6.0362

38

COLLECTOR NUMBER	62+03/ 87C
ELEVATION	5122.00
SLOPE	1.06:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	184.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	15.9200	9.6166
09-26-81	151.0000	0.8409	0.5281
06-09-82	256.0000	2.4500	1.2781
09-11-82	91.0000	1.0458	1.0899
06-07-83	247.0000	1.3500	0.5183
10-15-83	152.0000	72.5000	45.2348
TOTAL AVERAGE YIELD OF SEDIMENT			9.7110
AVERAGE YIELD DURING SPRING COLLECTIONS			3.8043
AVERAGE YIELD DURING FALL COLLECTIONS			15.6176

39

COLLECTOR NUMBER	62+03/ 21C
ELEVATION	5122.00
SLOPE	1.13:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	170.20 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	5.9000	3.8697
09-26-81	151.0000	1.0371	0.7072
06-09-82	256.0000	1.2370	0.4976
09-11-82	91.0000	3.2900	3.7229
05-16-83	247.0000	3.1330	1.3061
10-15-83	152.0000	30.1000	20.3913
TOTAL AVERAGE YIELD OF SEDIMENT			5.0824
AVERAGE YIELD DURING SPRING COLLECTIONS			1.8911
AVERAGE YIELD DURING FALL COLLECTIONS			8.2738

40

COLLECTOR NUMBER	62+03/ -6C
ELEVATION	5122.00
SLOPE	1.11:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	111.80 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	0.2792	0.5836
06-09-82	256.0000	1.7000	1.0410
09-11-82	91.0000	2.5500	4.3928
05-16-83	247.0000	5.2500	3.3320
10-15-83	145.0000	2.0000	2.1622
TOTAL AVERAGE YIELD OF SEDIMENT			2.3023
AVERAGE YIELD DURING SPRING COLLECTIONS			2.1865
AVERAGE YIELD DURING FALL COLLECTIONS			2.3795

41

COLLECTOR NUMBER	64+34/117C
ELEVATION	5142.83
SLOPE	1.17:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	7
AREA	142.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	12.5140	9.8376
09-26-81	53.0000	0.5172	1.2044
06-09-82	256.0000	2.1970	1.0592
09-11-82	91.0000	6.1430	8.3317
05-16-83	247.0000	2.5180	1.2582
10-15-83	152.0000	35.1700	28.5575
TOTAL AVERAGE YIELD OF SEDIMENT			8.3748
AVERAGE YIELD DURING SPRING COLLECTIONS			4.0517
AVERAGE YIELD DURING FALL COLLECTIONS			12.6979

42

COLLECTOR NUMBER	64+34/ 90C
ELEVATION	5142.83
SLOPE	1.06:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	124.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	130.5850	117.5581
09-26-81	151.0000	24.3833	22.8231
06-09-82	256.0000	10.4400	5.7639
09-11-82	91.0000	11.8800	18.4516
05-16-83	247.0000	84.7900	48.5184
10-15-83	152.0000	66.8100	62.1236
TOTAL AVERAGE YIELD OF SEDIMENT			45.8731
AVERAGE YIELD DURING SPRING COLLECTIONS			57.2801
AVERAGE YIELD DURING FALL COLLECTIONS			34.4661

43

COLLECTOR NUMBER	64+34/ 63C
ELEVATION	5142.83
SLOPE	1.36:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	7
AREA	144.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	145.2460	112.5958
09-26-81	151.0000	22.1782	17.8759
06-09-82	256.0000	20.6000	9.7937
09-11-82	91.0000	4.4500	5.9516
05-16-83	247.0000	115.9000	57.1090
10-15-83	152.0000	41.3000	33.0692
TOTAL AVERAGE YIELD OF SEDIMENT			39.3992
AVERAGE YIELD DURING SPRING COLLECTIONS			59.8328
AVERAGE YIELD DURING FALL COLLECTIONS			18.9656

44

COLLECTOR NUMBER	64+34/ 24C
ELEVATION	5142.83
SLOPE	1.11:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	7
AREA	72.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-28-81	157.0000	7.5450	11.6979
09-26-81	151.0000	0.6277	1.0119
NO DATA	256.0000	-2.0000	0.0000
09-11-82	91.0000	0.1677	0.4486
05-16-83	247.0000	1.7100	1.6852
10-15-83	152.0000	21.3500	34.1902
TOTAL AVERAGE YIELD OF SEDIMENT			9.8068
AVERAGE YIELD DURING SPRING COLLECTIONS			6.6915
AVERAGE YIELD DURING FALL COLLECTIONS			11.8836

45

COLLECTOR NUMBER	65+84/ 62C
ELEVATION	5147.17
SLOPE	1.05:1
ASPECT	180
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	5
AREA	125.80 FT**2
DATE OF COLLECTOR INSTALLATION	07-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	73.0000	8.2808	15.8033
06-09-82	256.0000	35.7000	19.4280
09-11-82	91.0000	-2.0000	0.0000
06-07-83	269.0000	49.6000	25.6879
10-15-83	130.0000	75.4000	80.8031
TOTAL AVERAGE YIELD OF SEDIMENT			35.4306
AVERAGE YIELD DURING SPRING COLLECTIONS			22.5580
AVERAGE YIELD DURING FALL COLLECTIONS			48.3032

46

COLLECTOR NUMBER	65+84/ 52C
ELEVATION	5147.17
SLOPE	1.11:1
ASPECT	190
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	5
AREA	139.40 FT**2
DATE OF COLLECTOR INSTALLATION	08-02-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	55.0000	5.5914	12.7813
06-09-82	256.0000	17.3800	8.5355
09-11-82	91.0000	21.8900	30.2428
05-16-83	247.0000	26.5690	13.5237
10-15-83	152.0000	31.7000	26.2200
TOTAL AVERAGE YIELD OF SEDIMENT			18.2607
AVERAGE YIELD DURING SPRING COLLECTIONS			11.0296
AVERAGE YIELD DURING FALL COLLECTIONS			23.0814

47

COLLECTOR NUMBER	65+84/ 25C
ELEVATION	5147.17
SLOPE	1.19:1
ASPECT	190
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	5
AREA	138.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	9.2520	15.6214
06-09-82	256.0000	61.3800	30.3621
09-11-82	91.0000	29.1600	40.5780
05-16-83	247.0000	60.8000	31.1710
10-15-83	152.0000	53.2000	44.3213
TOTAL AVERAGE YIELD OF SEDIMENT			32.4107
AVERAGE YIELD DURING SPRING COLLECTIONS			30.7665
AVERAGE YIELD DURING FALL COLLECTIONS			33.5069

48

COLLECTOR NUMBER	65+84/ -8C
ELEVATION	5147.17
SLOPE	1.30:1
ASPECT	200
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	4
AREA	52.20 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	0.6531	2.9237
06-09-82	256.0000	3.2670	4.2847
09-11-82	91.0000	4.4760	16.5143
05-16-83	247.0000	10.3000	14.0007
10-15-83	152.0000	15.2000	33.5745
TOTAL AVERAGE YIELD OF SEDIMENT			14.2596
AVERAGE YIELD DURING SPRING COLLECTIONS			9.1427
AVERAGE YIELD DURING FALL COLLECTIONS			17.6708

49

COLLECTOR NUMBER	68+78/102C
ELEVATION	5161.27
SLOPE	1.06:1
ASPECT	150
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	4
AREA	150.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-13-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	75.0000	5.6487	8.7999
06-09-82	256.0000	32.2800	14.7327
09-11-82	91.0000	-2.0000	0.0000
05-17-83	248.0000	31.8700	15.0148
10-15-83	151.0000	35.6000	27.5462
TOTAL AVERAGE YIELD OF SEDIMENT			16.5234
AVERAGE YIELD DURING SPRING COLLECTIONS			14.8738
AVERAGE YIELD DURING FALL COLLECTIONS			18.1730

50

COLLECTOR NUMBER	68+78/ 84C
ELEVATION	5161.27
SLOPE	1.02:1
ASPECT	160
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	4
AREA	150.80 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	3.3867	4.9200
06-09-82	256.0000	32.6000	14.7998
09-11-82	91.0000	4.8000	6.1303
05-16-83	247.0000	14.3100	6.7332
10-15-83	152.0000	64.3000	49.1639
TOTAL AVERAGE YIELD OF SEDIMENT			16.3494
AVERAGE YIELD DURING SPRING COLLECTIONS			10.7665
AVERAGE YIELD DURING FALL COLLECTIONS			20.0714

51

COLLECTOR NUMBER	68+78/ 38C
ELEVATION	5161.27
SLOPE	1.51:1
ASPECT	150
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	4
AREA	119.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	0.0477	0.0875
06-09-82	256.0000	1.9870	1.1393
09-11-82	91.0000	1.3950	2.2501
05-17-83	248.0000	1.3960	0.8262
10-15-83	151.0000	9.2300	8.9722
TOTAL AVERAGE YIELD OF SEDIMENT			2.6551
AVERAGE YIELD DURING SPRING COLLECTIONS			0.9828
AVERAGE YIELD DURING FALL COLLECTIONS			3.7700

52

COLLECTOR NUMBER	68+78/ 25C
ELEVATION	5161.27
SLOPE	1.66:1
ASPECT	150
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	4
AREA	118.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
NO DATA	80.0000	-2.0000	0.0000
NO DATA	256.0000	-2.0000	0.0000
09-11-82	91.0000	0.7570	1.2314
05-17-83	248.0000	0.4380	0.2614
10-15-83	151.0000	5.0000	4.9014
TOTAL AVERAGE YIELD OF SEDIMENT			2.1314
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2614
AVERAGE YIELD DURING FALL COLLECTIONS			3.0664

53

COLLECTOR NUMBER	70+12/ 68C
ELEVATION	5169.26
SLOPE	1.06:1
ASPECT	130
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	102.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	0.8459	1.8062
06-09-82	256.0000	3.4500	2.3020
09-11-82	91.0000	4.9100	9.2167
05-17-83	248.0000	8.5000	5.8546
10-15-83	151.0000	39.4500	44.6276
TOTAL AVERAGE YIELD OF SEDIMENT			12.7614
AVERAGE YIELD DURING SPRING COLLECTIONS			4.0783
AVERAGE YIELD DURING FALL COLLECTIONS			18.5501

54

COLLECTOR NUMBER	70+12/ 42C
ELEVATION	5169.26
SLOPE	1.04:1
ASPECT	120
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	116.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	3.1165	5.8554
06-09-82	256.0000	5.9200	3.4759
09-11-82	91.0000	12.8000	21.1422
05-17-83	248.0000	16.8800	10.2306
10-15-83	151.0000	74.7000	74.3576
TOTAL AVERAGE YIELD OF SEDIMENT			23.0123
AVERAGE YIELD DURING SPRING COLLECTIONS			6.8533
AVERAGE YIELD DURING FALL COLLECTIONS			33.7851

55

COLLECTOR NUMBER	70+51/ 42C
ELEVATION	5169.21
SLOPE	1.35:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	101.60 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	0.1664	0.3588
06-09-82	256.0000	0.9620	0.6482
09-11-82	91.0000	0.8180	1.5506
05-17-83	248.0000	1.9300	1.3424
10-15-83	151.0000	12.5000	14.2797
TOTAL AVERAGE YIELD OF SEDIMENT			3.6359
AVERAGE YIELD DURING SPRING COLLECTIONS			0.9953
AVERAGE YIELD DURING FALL COLLECTIONS			5.3964

56

COLLECTOR NUMBER	70+51/ 21C
ELEVATION	5169.21
SLOPE	1.51:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	88.20 FT**2
DATE OF COLLECTOR INSTALLATION	07-08-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	80.0000	0.0338	0.0840
06-09-82	256.0000	0.1510	0.1172
09-11-82	91.0000	0.4440	0.9695
05-17-83	248.0000	0.7453	0.5972
10-15-83	151.0000	1.9300	2.5398
TOTAL AVERAGE YIELD OF SEDIMENT			0.8615
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3572
AVERAGE YIELD DURING FALL COLLECTIONS			1.1977

57

COLLECTOR NUMBER	72+45/ 43C
ELEVATION	5164.52
SLOPE	1.00:1
ASPECT	70
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	100.80 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.9051	1.9428
06-09-82	256.0000	4.3920	2.9829
09-11-82	91.0000	2.9960	5.7243
05-17-83	248.0000	3.7700	2.6431
10-15-83	151.0000	29.8000	34.3130
TOTAL AVERAGE YIELD OF SEDIMENT			9.5212
AVERAGE YIELD DURING SPRING COLLECTIONS			2.8130
AVERAGE YIELD DURING FALL COLLECTIONS			13.9934

58

COLLECTOR NUMBER	72+69/ 15C
ELEVATION	5164.99
SLOPE	1.13:1
ASPECT	60
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	91.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-8

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.2416	0.5744
06-09-82	256.0000	3.8200	2.8738
09-11-82	91.0000	2.6500	5.6085
05-17-83	248.0000	1.4280	1.1090
10-15-83	151.0000	13.0000	16.5808
TOTAL AVERAGE YIELD OF SEDIMENT			5.3493
AVERAGE YIELD DURING SPRING COLLECTIONS			1.9914
AVERAGE YIELD DURING FALL COLLECTIONS			7.5879

59

COLLECTOR NUMBER	72+69/ 4C
ELEVATION	5164.99
SLOPE	1.11:1
ASPECT	60
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	98.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.0976	0.2155
06-09-82	256.0000	0.8580	0.5994
09-11-82	91.0000	2.9100	5.7188
05-17-83	248.0000	0.8560	0.6173
10-15-83	151.0000	11.2200	13.2883
TOTAL AVERAGE YIELD OF SEDIMENT			4.0879
AVERAGE YIELD DURING SPRING COLLECTIONS			0.6083
AVERAGE YIELD DURING FALL COLLECTIONS			6.4075

60

COLLECTOR NUMBER	73+67/ 45C
ELEVATION	5170.24
SLOPE	0.95:1
ASPECT	90
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	116.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-8

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-29-8	158.0000	10.5400	10.0097
09-26-8	150.0000	9.6466	9.6499
06-09-8	256.0000	5.4800	3.2120
09-11-8	91.0000	8.9100	14.6918
05-17-8	248.0000	7.4500	4.5076
10-15-8	151.0000	17.0000	16.8931
TOTAL AVERAGE YIELD OF SEDIMENT			9.8273
AVERAGE YIELD DURING SPRING COLLECTIONS			5.9098
AVERAGE YIELD DURING FALL COLLECTIONS			13.7449

61

COLLECTOR NUMBER	75+36/ 48C
ELEVATION	5185.47
SLOPE	1.00:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	0
AREA	71.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
04-29-81	158.0000	146.3530	228.6475
09-26-81	150.0000	8.5079	14.0008
06-09-82	256.0000	125.7500	121.2523
NO DATA	91.0000	-2.0000	0.0000
06-07-83	248.0000	124.8000	124.2181
10-15-83	151.0000	25.7000	42.0125
TOTAL AVERAGE YIELD OF SEDIMENT			106.0262
AVERAGE YIELD DURING SPRING COLLECTIONS			158.0392
AVERAGE YIELD DURING FALL COLLECTIONS			28.0066

62

COLLECTOR NUMBER	75+36/ 18C
ELEVATION	5185.47
SLOPE	0.95:1
ASPECT	100
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	40.20 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-04-81	193.0000	105.1600	237.5462
09-26-81	145.0000	7.4686	22.4557
06-09-82	256.0000	57.2000	97.4116
09-11-82	91.0000	4.4900	21.5110
05-17-83	248.0000	33.4000	58.7150
10-15-83	151.0000	15.7000	45.3291
TOTAL AVERAGE YIELD OF SEDIMENT			80.4947
AVERAGE YIELD DURING SPRING COLLECTIONS			131.2242
AVERAGE YIELD DURING FALL COLLECTIONS			29.7652

63

COLLECTOR NUMBER	78+26/ 97C
ELEVATION	5207.58
SLOPE	0.95:1
ASPECT	108
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	79.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-04-81	193.0000	172.6920	196.5135
09-26-81	145.0000	5.6589	8.5712
06-09-82	256.0000	10.6700	9.1538
09-11-82	91.0000	9.8500	23.7723
05-23-83	254.0000	79.7000	68.9132
10-15-83	145.0000	25.4000	38.4718
TOTAL AVERAGE YIELD OF SEDIMENT			57.5659
AVERAGE YIELD DURING SPRING COLLECTIONS			91.5268
AVERAGE YIELD DURING FALL COLLECTIONS			23.6051

64

COLLECTOR NUMBER	78+26/ 76C
ELEVATION	5207.58
SLOPE	0.95:1
ASPECT	101
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	82.00 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-04-81	193.0000	176.1750	195.0983
09-26-81	145.0000	38.6682	56.9970
06-09-82	256.0000	32.3000	26.9668
09-11-82	91.0000	11.6700	27.4091
05-23-83	254.0000	53.0000	44.5973
10-15-83	145.0000	57.3000	84.4604
TOTAL AVERAGE YIELD OF SEDIMENT			72.5880
AVERAGE YIELD DURING SPRING COLLECTIONS			88.8875
AVERAGE YIELD DURING FALL COLLECTIONS			56.2889

65

COLLECTOR NUMBER	78+26/ 40C
ELEVATION	5207.58
SLOPE	0.95:1
ASPECT	110
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	69.80 FT**2
DATE OF COLLECTOR INSTALLATION	11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-04-81	193.0000	31.2310	40.6306
09-26-81	145.0000	9.0355	15.6462
06-09-82	256.0000	11.5000	11.2793
09-11-82	91.0000	11.3300	31.2617
05-23-83	254.0000	17.7000	17.4970
10-15-83	145.0000	32.1000	55.5856
TOTAL AVERAGE YIELD OF SEDIMENT			28.6501
AVERAGE YIELD DURING SPRING COLLECTIONS			23.1357
AVERAGE YIELD DURING FALL COLLECTIONS			34.1645

66

COLLECTOR NUMBER	80+57/ 13C
ELEVATION	5224.52
SLOPE	1.02:1
ASPECT	52
SLOPE SURFACE TREATMENT	NO TREATMENT
ROCK WEATHERING CLASS	6
AREA	48.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.5024	2.2647
06-09-82	256.0000	3.3600	4.7922
09-11-82	91.0000	3.9700	15.9290
05-23-83	254.0000	3.9500	5.6781
10-15-83	145.0000	10.3000	25.9363
TOTAL AVERAGE YIELD OF SEDIMENT			10.9201
AVERAGE YIELD DURING SPRING COLLECTIONS			5.2352
AVERAGE YIELD DURING FALL COLLECTIONS			14.7100

67

COLLECTOR NUMBER	84+94/ 75C
ELEVATION	5266.29
SLOPE	1.28:1
ASPECT	50
SLOPE SURFACE TREATMENT	HYDROSEED + TERRACE
ROCK WEATHERING CLASS	4
AREA	124.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-20-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	68.0000	0.0527	0.1095
06-09-82	256.0000	0.5850	0.3230
09-11-82	91.0000	1.0500	1.6308
05-23-83	254.0000	0.9910	0.5514
10-15-83	45.0000	2.9200	9.1713
TOTAL AVERAGE YIELD OF SEDIMENT			2.3572
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4372
AVERAGE YIELD DURING FALL COLLECTIONS			3.6372

68

COLLECTOR NUMBER	85+48/ 12C
ELEVATION	5271.91
SLOPE	1.38:1
ASPECT	109
SLOPE SURFACE TREATMENT	HYDROSEED + TERRACE
ROCK WEATHERING CLASS	4
AREA	208.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-20-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	68.0000	0.7518	0.9316
06-09-82	256.0000	25.8700	8.5148
09-11-82	91.0000	2.8330	2.6231
05-23-83	254.0000	7.9800	2.6472
10-15-83	145.0000	17.1500	9.9658
TOTAL AVERAGE YIELD OF SEDIMENT			4.9365
AVERAGE YIELD DURING SPRING COLLECTIONS			5.5810
AVERAGE YIELD DURING FALL COLLECTIONS			4.5068

71

COLLECTOR NUMBER	87+05/ 10C
ELEVATION	5285.76
SLOPE	0.95:1
ASPECT	56
SLOPE SURFACE TREATMENT	HYDROSEED + TERRACE
ROCK WEATHERING CLASS	5
AREA	82.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-16-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	82.0000	0.4175	1.0882
06-09-82	256.0000	14.1000	11.7719
09-11-82	91.0000	6.4500	15.1490
05-23-83	254.0000	4.9800	4.1905
10-15-83	145.0000	5.8500	8.6229
TOTAL AVERAGE YIELD OF SEDIMENT			8.1645
AVERAGE YIELD DURING SPRING COLLECTIONS			7.9812
AVERAGE YIELD DURING FALL COLLECTIONS			8.2867

72

COLLECTOR NUMBER	93+00/ 50C
ELEVATION	5327.53
SLOPE	1.61:1
ASPECT	261
SLOPE SURFACE TREATMENT	HYDROSEED
ROCK WEATHERING CLASS	5
AREA	80.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.0227	0.0614
06-09-82	256.0000	0.3320	0.2841
09-11-82	91.0000	0.4340	1.0448
05-23-83	254.0000	0.9270	0.7995
10-15-83	145.0000	2.5100	3.7922
TOTAL AVERAGE YIELD OF SEDIMENT			1.1964
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5418
AVERAGE YIELD DURING FALL COLLECTIONS			1.6328

73

COLLECTOR NUMBER	94+05/ 1C
ELEVATION	5334.80
SLOPE	2.10:1
ASPECT	22
SLOPE SURFACE TREATMENT	HYDROSEED
ROCK WEATHERING CLASS	0
AREA	55.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.8247	3.2444
06-09-82	256.0000	0.4430	0.5514
09-11-82	91.0000	0.5080	1.7789
05-23-83	254.0000	0.1990	0.2497
10-15-83	145.0000	1.3360	2.9360
TOTAL AVERAGE YIELD OF SEDIMENT			1.7521
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4005
AVERAGE YIELD DURING FALL COLLECTIONS			2.6531

74

COLLECTOR NUMBER	94+74/190C
ELEVATION	5338.99
SLOPE	1.09:1
ASPECT	200
SLOPE SURFACE TREATMENT	HYDROSEED
ROCK WEATHERING CLASS	6
AREA	144.40 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	3.6050	5.4017
06-09-82	256.0000	3.3700	1.5977
09-11-82	91.0000	13.7800	18.3790
05-23-83	254.0000	3.7800	1.8062
10-15-83	145.0000	28.6000	23.9393
TOTAL AVERAGE YIELD OF SEDIMENT			10.2248
AVERAGE YIELD DURING SPRING COLLECTIONS			1.7020
AVERAGE YIELD DURING FALL COLLECTIONS			15.9067

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COLLECTOR NUMBER	100+54/ 1C
ELEVATION	5368.48
SLOPE	1.42:1
ASPECT	118
SLOPE SURFACE TREATMENT	HYDROSEED
ROCK WEATHERING CLASS	6
AREA	110.00 FT**2
DATE OF COLLECTOR INSTALLATION	07-07-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-26-81	81.0000	0.1617	0.3181
06-09-82	256.0000	0.6950	0.4325
09-11-82	91.0000	1.1070	1.9382
05-23-83	254.0000	0.7250	0.4548
10-15-83	145.0000	2.3130	2.5415
TOTAL AVERAGE YIELD OF SEDIMENT			1.1370
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4437
AVERAGE YIELD DURING FALL COLLECTIONS			1.5993

TREATMENT SET NUMBER 3-R1 1
COLLECTOR NUMBER 47+50/116FT USFS VEGETATION PLOT # 1
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 143
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT HYDROSEED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	1.1340	1.2406
09-27 81	62.0000	0.1318	0.4140
06-09-82	256.0000	0.8570	0.6519
09-11-82	91.0000	0.7700	1.6477
05-24-83	255.0000	0.7490	0.5720
10-15-83	144.0000	5.2300	7.0726
TOTAL AVERAGE YIELD OF SEDIMENT			1.9331
AVERAGE YIELD DURING SPRING COLLECTIONS			0.8215
AVERAGE YIELD DURING FALL COLLECTIONS			3.0448

TREATMENT SET NUMBER 3-R1 2
COLLECTOR NUMBER 47+50/ 90FT USFS VEGETATION PLOT # 2
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 145
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + TACK
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	1.0260	1.1224
09-27 81	66.0000	0.0237	0.0699
06-09-82	256.0000	0.1350	0.1027
09-11-82	91.0000	0.1740	0.3723
05-24-83	255.0000	0.3888	0.2969
10-15-83	144.0000	1.4950	2.0217
TOTAL AVERAGE YIELD OF SEDIMENT			0.6643
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5073
AVERAGE YIELD DURING FALL COLLECTIONS			0.8213

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 47+50/ 99FB USFS VEGETATION PLOT # 0
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 145
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	1.1610	1.2701
09-27 81	62.0000	0.4616	1.4498
06-09-82	256.0000	0.7460	0.5675
09-11-82	91.0000	2.1140	4.5238
05-24-83	255.0000	1.4910	1.1386
10-15-83	144.0000	13.6000	18.3914
TOTAL AVERAGE YIELD OF SEDIMENT			4.5569
AVERAGE YIELD DURING SPRING COLLECTIONS			0.9921
AVERAGE YIELD DURING FALL COLLECTIONS			8.1217

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 47+50/ 84FB USFS VEGETATION PLOT # 0
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 147
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	23.3590	25.5547
09-27 81	62.0000	0.8919	2.8013
06-09-82	256.0000	1.6450	1.2513
09-11-82	91.0000	1.5820	3.3853
05-24-83	255.0000	1.9860	1.5166
10-15-83	144.0000	38.7000	52.3343
TOTAL AVERAGE YIELD OF SEDIMENT			14.4739
AVERAGE YIELD DURING SPRING COLLECTIONS			9.4409
AVERAGE YIELD DURING FALL COLLECTIONS			19.5070

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TREATMENT SET NUMBER 3-R1
COLLECTOR NUMBER 47+50/ 78FT USFS VEGETATION PLOT # 3
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 147
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT POLYMER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	4.6870	5.1276
09-27 81	66.0000	0.0843	0.2487
06-09-82	256.0000	0.9710	0.7386
09-11-82	91.0000	0.3350	0.7169
05-24-83	255.0000	0.9996	0.7634
10-15-83	144.0000	6.3200	8.5466
TOTAL AVERAGE YIELD OF SEDIMENT			2.6903
AVERAGE YIELD DURING SPRING COLLECTIONS			2.2098
AVERAGE YIELD DURING FALL COLLECTIONS			3.1707

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TREATMENT SET NUMBER 4
COLLECTOR NUMBER 47+50/ 66FB USFS VEGETATION PLOT # 0
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 150
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	178.0000	36.8360	40.2986
09-27 81	66.0000	0.0308	0.0909
06-09-82	256.0000	0.4980	0.3788
09-11-82	91.0000	0.5990	1.2818
06-21-83	255.0000	0.5606	0.4281
10-15-83	144.0000	10.4000	14.0640
TOTAL AVERAGE YIELD OF SEDIMENT			9.4237
AVERAGE YIELD DURING SPRING COLLECTIONS			13.7018
AVERAGE YIELD DURING FALL COLLECTIONS			5.1456

TREATMENT SET NUMBER 3-R1
COLLECTOR NUMBER 47+50/ 60FT USFS VEGETATION PLOT # 0
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 155
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-06-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	83.0000	0.2585	0.6065
06-09-82	256.0000	0.7490	0.5697
09-11-82	91.0000	0.4080	0.3731
05-24-83	255.0000	0.5780	0.4414
10-15-83	144.0000	5.1590	6.9766
TOTAL AVERAGE YIELD OF SEDIMENT			1.8935
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5056
AVERAGE YIELD DURING FALL COLLECTIONS			2.8187

TREATMENT SET NUMBER 3-R1
COLLECTOR NUMBER 47+50/ 48FT USFS VEGETATION PLOT # 4
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 155
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + NET
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	0.7330	0.8064
09-27 81	67.0000	1.1755	3.4165
06-09-82	256.0000	0.0320	0.0243
09-11-82	91.0000	0.2110	0.4515
05-24-83	255.0000	0.2860	0.2184
10-15-83	144.0000	0.2810	0.3800
TOTAL AVERAGE YIELD OF SEDIMENT			0.8829
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3497
AVERAGE YIELD DURING FALL COLLECTIONS			1.4160

TREATMENT SET NUMBER 3-R1 9
COLLECTOR NUMBER 47+50/ 34FT USFS VEGETATION PLOT # 6
ELEVATION 5001.89 FT.
SLOPE 1.50:1
ASPECT 158
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + CRIMP
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-06-81

DATE OF COLLECTION NO.	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
BUILT	0.0000	-1.0000	0.0000
09-27 81	82.0000	0.0539	0.1280
06-09-82	256.0000	0.0900	0.0685
09-11-82	91.0000	0.0490	0.1049
05-24-83	255.0000	0.1223	0.0934
10-15-83	144.0000	0.3090	0.4179
TOTAL AVERAGE YIELD OF SEDIMENT			0.1625
AVERAGE YIELD DURING SPRING COLLECTIONS			0.0809
AVERAGE YIELD DURING FALL COLLECTIONS			0.2169

TREATMENT SET NUMBER 2-R1 10
COLLECTOR NUMBER 54+69/157F USFS VEGETATION PLOT # 7
ELEVATION 5072.00 FT.
SLOPE 1.50:1
ASPECT 153
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STRAW + CRIMP
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 05-27-81

DATE OF COLLECTION NO.	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
BUILT	0.0000	-1.0000	0.0000
09-27 81	121.0000	0.8350	1.3438
06-09-82	256.0000	7.4190	5.6434
09-11-82	91.0000	3.7320	7.9862
05-24-83	255.0000	0.7711	0.5889
10-15-83	144.0000	31.2990	42.3259
TOTAL AVERAGE YIELD OF SEDIMENT			11.5776
AVERAGE YIELD DURING SPRING COLLECTIONS			3.1161
AVERAGE YIELD DURING FALL COLLECTIONS			17.2186

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TREATMENT SET NUMBER 2-R1
COLLECTOR NUMBER 54+69/130F USFS VEGETATION PLOT # 8
ELEVATION 5072.00 FT.
SLOPE 1.50:1
ASPECT 139
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT POLYMER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 05-27-81

DATE OF COLLECTION NO. BUILT	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27 81	121.0000	9.9675	16.0413
6-09-82	256.0000	2.6990	2.0531
09-11-82	91.0000	0.822	1.7553
05-24-83	255.0000	2.4810	1.8946
10-15-83	144.0000	19.7000	26.6404
TOTAL AVERAGE YIELD OF SEDIMENT			9.6769
AVERAGE YIELD DURING SPRING COLLECTIONS			1.9738
AVERAGE YIELD DURING FALL COLLECTIONS			14.8

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TREATMENT SET NUMBER 2-R1
COLLECTOR NUMBER 54+69/ 86F USFS VEGETATION PLOT # 9
ELEVATION 5072.00 FT.
SLOPE 1.50:1
ASPECT 134
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STRAW + TACK
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 05-27-81

DATE OF COLLECTION NO. BUILT	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
	0.0000	-1.0000	0.0000
09-27 81	121.0000	1.1724	1.98289
06-09-82	256.0000	.862	.654332
09-11-82	91.0000	.932	1.99
05-24-83	255.0000	1.0142	.773
10-15-83	144.0000	9.75	13.157
TOTAL AVERAGE YIELD OF SEDIMENT			3.69
AVERAGE YIELD DURING SPRING COLLECTIONS			.7136
AVERAGE YIELD DURING FALL COLLECTIONS			5.6766

TREATMENT SET NUMBER 2-R1 13
COLLECTOR NUMBER 54+69/ 65F USFS VEGETATION PLOT #10
ELEVATION 5072.00 FT.
SLOPE 1.50:1
ASPECT 123
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 05-26-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	123.0000	5.0997	8.0738
06-09-82	256.0000	1.9960	1.5183
09-11-82	91.0000	4.4730	9.5718
05-24-83	255.0000	0.5708	0.4359
10-15-83	144.0000	16.7960	22.7133
TOTAL AVERAGE YIELD OF SEDIMENT			8.4626
AVERAGE YIELD DURING SPRING COLLECTIONS			0.9771
AVERAGE YIELD DURING FALL COLLECTIONS			13.4530

TREATMENT SET NUMBER 2-R1 14
COLLECTOR NUMBER 54+69/ 45F USFS VEGETATION PLOT #11
ELEVATION 5072.00 FT.
SLOPE 1.50:1
ASPECT 111
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROMULCH
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 05-21-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	128.0000	1.7393	2.6461
06-09-82	256.0000	0.7670	0.5834
09-11-82	91.0000	0.5310	1.1363
05-24-83	255.0000	0.4204	0.3210
10-15-83	144.0000	2.6700	3.6107
TOTAL AVERAGE YIELD OF SEDIMENT			1.6595
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4522
AVERAGE YIELD DURING FALL COLLECTIONS			2.4643

TREATMENT SET NUMBER	2-R1	
COLLECTOR NUMBER	54+69/ 25F	USFS VEGETATION PLOT #12
ELEVATION	5072.00 FT.	
SLOPE	1.50:1	
ASPECT	108	
CONSTRUCTION METHOD	LAYER PLACED	
SLOPE SURFACE TREATMENT	STRAW + NET	
AREA	90.00 FT**2	
DATE OF COLLECTOR INSTALLATION	05-21-81	

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
No. BUILT	0.0000	-1.0000	0.0000
09-27 81	128.0000	0.8406	1.2788
06-09-82	256.0000	0.4900	0.3727
09-11-82	91.0000	0.4770	1.0207
05-24-83	255.0000	0.4643	0.3546
10-15-83	144.0000	1.1020	1.4902
TOTAL AVERAGE YIELD OF SEDIMENT			0.9034
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3636
AVERAGE YIELD DURING FALL COLLECTIONS			1.2633

TREATMENT SET NUMBER	2-R1	
COLLECTOR NUMBER	54+69/ 7F	USFS VEGETATION PLOT #13
ELEVATION	5072.00 FT.	
SLOPE	1.50:1	
ASPECT	106	
CONSTRUCTION METHOD	LAYER PLACED	
SLOPE SURFACE TREATMENT	STRAW + CRIMP + NET	
AREA	90.00 FT**2	
DATE OF COLLECTOR INSTALLATION	05-20-81	

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
No. BUILT	0.0000	-1.0000	0.0000
09-27 81	129.0000	0.4367	0.6592
06-09-82	256.0000	0.4150	0.3157
09-11-82	91.0000	-2.0000	0.0000
05-24-83	255.0000	0.1523	0.1163
10-15-83	144.0000	0.1000	0.1352
TOTAL AVERAGE YIELD OF SEDIMENT			0.3066
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2160
AVERAGE YIELD DURING FALL COLLECTIONS			0.3972

TREATMENT SET NUMBER 4-R1 17
COLLECTOR NUMBER 56+56/ 33F USFS VEGETATION PLOT # 0
ELEVATION 5085.58 FT.
SLOPE 1.50:1
ASPECT 189
CONSTRUCTION METHOD* SIDE CASTED
SLOPE SURFACE TREATMENT SIDE CASTED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	1.1660	1.2828
09-27 81	66.0000	1.2347	3.6430
06-09-82	256.0000	0.6450	0.4906
09-11-82	91.0000	0.2430	0.5200
06-21-83	283.0000	0.7362	0.5066
10-15-83	116.0000	5.1850	8.7042
TOTAL AVERAGE YIELD OF SEDIMENT			2.5245
AVERAGE YIELD DURING SPRING COLLECTIONS			0.7600
AVERAGE YIELD DURING FALL COLLECTIONS			4.2891

TREATMENT SET NUMBER 4-R1 18
COLLECTOR NUMBER 56+56/ 24F USFS VEGETATION PLOT # 0
ELEVATION 5085.58 FT.
SLOPE 1.50:1
ASPECT 188
CONSTRUCTION METHOD. SIDE CASTED
SLOPE SURFACE TREATMENT SIDE CASTED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	2.7430	3.0178
09-27 81	66.0000	5.6681	16.7237
06-09-82	256.0000	1.4110	1.0733
09-11-82	91.0000	0.3420	0.7319
05-24-83	255.0000	1.4710	1.1233
10-15-83	144.0000	7.1520	9.6717
TOTAL AVERAGE YIELD OF SEDIMENT			5.3903
AVERAGE YIELD DURING SPRING COLLECTIONS			1.7381
AVERAGE YIELD DURING FALL COLLECTIONS			9.0424

TREATMENT SET NUMBER 4-R1
COLLECTOR NUMBER 56+56/ 12F USFS VEGETATION PLOT # 0 1
ELEVATION 5085.58 FT.
SLOPE 1.50:1
ASPECT 188
CONSTRUCTION METHOD SIDE CAST + SURFACE ROLLING
SLOPE SURFACE TREATMENT SIDE CAST + SURFACE ROLL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	4.8810	5.3700
09-27 81	66.0000	6.5864	19.4331
06-09-82	256.0000	1.6950	1.2893
09-11-82	91.0000	-2.0000	0.0000
05-24-83	255.0000	1.4770	1.1279
10-15-83	144.0000	7.0000	9.4662
TOTAL AVERAGE YIELD OF SEDIMENT			7.3373
AVERAGE YIELD DURING SPRING COLLECTIONS			2.5957
AVERAGE YIELD DURING FALL COLLECTIONS			14.4496

TREATMENT SET NUMBER 4-R1 2
COLLECTOR NUMBER 56+56/ 2F USFS VEGETATION PLOT # 0
ELEVATION 5085.58 FT.
SLOPE 1.50:1
ASPECT 188
CONSTRUCTION METHOD SIDE CAST + SURFACE ROLLING
SLOPE SURFACE TREATMENT SIDE CAST + SURFACE ROLL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	3.8730	4.2610
09-27 81	66.0000	5.6089	16.5490
06-09-82	256.0000	2.7900	2.1223
09-11-82	91.0000	2.9940	6.4069
05-24-83	285.0000	2.8350	1.9371
10-15-83	144.0000	16.9000	22.8540
TOTAL AVERAGE YIELD OF SEDIMENT			9.0217
AVERAGE YIELD DURING SPRING COLLECTIONS			2.7735
AVERAGE YIELD DURING FALL COLLECTIONS			15.2700

TREATMENT SET NUMBER 4-R1 21
COLLECTOR NUMBER 58+84/ 97F USFS VEGETATION PLOT # 0
ELEVATION 5097.22 FT.
SLOPE 1.50:1
ASPECT 160
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	43.4490	47.8018
09-27 81	66.0000	5.6190	16.5788
06-09-82	256.0000	4.1950	3.1910
09-11-82	91.0000	1.3940	2.9616
06-21-83	283.0000	4.1760	2.8735
10-15-83	116.0000	6.7700	11.3650
TOTAL AVERAGE YIELD OF SEDIMENT			14.1286
AVERAGE YIELD DURING SPRING COLLECTIONS			17.9554
AVERAGE YIELD DURING FALL COLLECTIONS			10.3018

TREATMENT SET NUMBER 4-R1 22
COLLECTOR NUMBER 58+84/ 70F USFS VEGETATION PLOT # 0
ELEVATION 5097.22 FT.
SLOPE 1.50:1
ASPECT 158
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	26.8920	29.5861
09-27 81	66.0000	4.8381	14.2748
06-09-82	256.0000	1.4900	1.1334
09-11-82	91.0000	0.8080	1.7290
06-21-83	283.0000	0.7724	0.5315
10-15-83	116.0000	1.3340	2.2394
TOTAL AVERAGE YIELD OF SEDIMENT			8.2490
AVERAGE YIELD DURING SPRING COLLECTIONS			10.4170
AVERAGE YIELD DURING FALL COLLECTIONS			6.0811

TREATMENT SET NUMBER 4-R1
COLLECTOR NUMBER 58+84/ 56F USFS VEGETATION PLOT # 0
ELEVATION 5097.22 FT.
SLOPE 1.50:1
ASPECT 155
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	102.6760	112.9623
09-27 81	66.0000	63.8200	188.3003
06-09-82	256.0000	15.7870	12.0087
09-11-82	91.0000	4.6870	10.0298
06-21-83	283.0000	17.8300	12.2688
10-15-83	116.0000	24.3000	40.7930
TOTAL AVERAGE YIELD OF SEDIMENT			62.7271
AVERAGE YIELD DURING SPRING COLLECTIONS			45.7466
AVERAGE YIELD DURING FALL COLLECTIONS			79.7077

TREATMENT SET NUMBER 4-R1
COLLECTOR NUMBER 58+84/ 36F USFS VEGETATION PLOT # 0
ELEVATION 5097.22 FT.
SLOPE 1.50:1
ASPECT 154
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	70.6440	77.7213
09-27 81	66.0000	6.8982	20.3531
06-09-82	256.0000	4.3060	3.2755
09-11-82	91.0000	2.1690	4.6415
06-21-83	283.0000	9.2000	6.3305
10-15-83	116.0000	19.9000	33.4066
TOTAL AVERAGE YIELD OF SEDIMENT			24.2881
AVERAGE YIELD DURING SPRING COLLECTIONS			29.1091
AVERAGE YIELD DURING FALL COLLECTIONS			19.4670

TREATMENT SET NUMBER 25
COLLECTOR NUMBER 60+79/ 43F USFS VEGETATION PLOT #50
ELEVATION 5511.71 FT.
SLOPE 1.50:1
ASPECT 192
CONSTRUCTION METHOD ?
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER + TRANSPLA
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-18-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	100.0000	0.8989	1.7504
06-09-82	256.0000	0.9510	0.7234
09-11-82	91.0000	0.1980	0.4237
06-21-83	283.0000	0.1558	0.1072
10-15-83	116.0000	0.2890	0.4852
TOTAL AVERAGE YIELD OF SEDIMENT			0.6980
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4153
AVERAGE YIELD DURING FALL COLLECTIONS			0.8864

TREATMENT SET NUMBER 26
COLLECTOR NUMBER 60+79/ 10F USFS VEGETATION PLOT #60
ELEVATION 5511.71 FT.
SLOPE 1.50:1
ASPECT 192
CONSTRUCTION METHOD ?
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-18-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	100.0000	8.6575	16.8589
06-09-82	256.0000	0.3230	0.2457
09-11-82	91.0000	0.2560	0.5478
06-21-83	283.0000	0.1301	0.0895
10-15-83	116.0000	0.0200	0.0336
TOTAL AVERAGE YIELD OF SEDIMENT			3.5551
AVERAGE YIELD DURING SPRING COLLECTIONS			0.1676
AVERAGE YIELD DURING FALL COLLECTIONS			5.8134

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 64+76/ 40F USFS VEGETATION PLOT # 0
ELEVATION 5146.10 FT.
SLOPE 1.30:1
ASPECT 189
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	103.0000	15.9672	30.1877
06-09-82	256.0000	1.6410	1.2483
09-11-82	91.0000	2.5290	5.4118
06-21-83	283.0000	1.9360	1.3322
10-15-83	116.0000	20.9800	35.2197

TOTAL AVERAGE YIELD OF SEDIMENT 14.6799
AVERAGE YIELD DURING SPRING COLLECTIONS 1.2902
AVERAGE YIELD DURING FALL COLLECTIONS 23.6064

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 64+76/ 30F USFS VEGETATION PLOT # 0
ELEVATION 5146.10 FT.
SLOPE 1.30:1
ASPECT 186
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-10.0000	0.0000
09-27 8	103.0000	0.4584	0.8667
06-09-8	256.0000	1.7610	1.3395
09-11-8	91.0000	1.4160	3.0301
06-21-8	283.0000	0.8188	0.5634
10-15-8	116.0000	3.4900	5.8588

TOTAL AVERAGE YIELD OF SEDIMENT 2.3317
AVERAGE YIELD DURING SPRING COLLECTIONS 0.9515
AVERAGE YIELD DURING FALL COLLECTIONS 3.2518

TREATMENT SET NUMBER 4 29
COLLECTOR NUMBER 64+76/ 15F USFS VEGETATION PLOT # 0
ELEVATION 5146.10 FT.
SLOPE 1.30:1
ASPECT 185
CONSTRUCTION METHOD * LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-15-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	103.0000	0.7443	1.4072
06-09-82	256.0000	1.0710	0.8147
09-11-82	91.0000	0.7540	1.6135
06-21-83	283.0000	0.5293	0.3642
10-15-83	116.0000	1.4140	2.3737
TOTAL AVERAGE YIELD OF SEDIMENT			1.3147
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5894
AVERAGE YIELD DURING FALL COLLECTIONS			1.7981

TREATMENT SET NUMBER 4 30
COLLECTOR NUMBER 64+76/ -6F USFS VEGETATION PLOT # 0
ELEVATION 5146.10 FT.
SLOPE 1.30:1
ASPECT 188
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-16-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	102.0000	0.7468	1.4257
06-09-82	256.0000	1.0680	0.8124
09-11-82	91.0000	0.9970	2.1335
06-21-83	283.0000	0.5993	0.4124
10-15-83	116.0000	1.2700	2.1320
TOTAL AVERAGE YIELD OF SEDIMENT			1.3832
AVERAGE YIELD DURING SPRING COLLECTIONS			0.6124
AVERAGE YIELD DURING FALL COLLECTIONS			1.8971

TREATMENT SET NUMBER 4-R2
COLLECTOR NUMBER 67+39/120F USFS VEGETATION PLOT # 0
ELEVATION 5149.10 FT.
SLOPE 1.50:1
ASPECT 176
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-04-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	114.0000	3.3090	5.6524
06-09-82	256.0000	3.9830	3.0298
NO DATA	91.0000	-2.0000	0.0000
05-24-83	255.0000	2.7900	2.1306
10-15-83	144.0000	43.4500	58.7578

TOTAL AVERAGE YIELD OF SEDIMENT 17.3926
AVERAGE YIELD DURING SPRING COLLECTIONS 2.5802
AVERAGE YIELD DURING FALL COLLECTIONS 32.2050

TREATMENT SET NUMBER 4-R2
COLLECTOR NUMBER 67+39/ 80F USFS VEGETATION PLOT # 0
ELEVATION 5149.10 FT.
SLOPE 1.50:1
ASPECT 169
CONSTRUCTION METHOD LAYER PLACED + SURFACE ROLLING
SLOPE SURFACE TREATMENT LAYER PLACED + SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-04-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	114.0000	0.8477	1.4480
06-09-82	256.0000	0.5820	0.4427
09-11-82	91.0000	0.5930	1.2690
06-24-83	255.0000	0.3408	0.2603
10-15-83	144.0000	24.9000	33.6724

TOTAL AVERAGE YIELD OF SEDIMENT 7.4185
AVERAGE YIELD DURING SPRING COLLECTIONS 0.3515
AVERAGE YIELD DURING FALL COLLECTIONS 12.1298

TREATMENT SET NUMBER 4-R2 33
COLLECTOR NUMBER 67+39/ 54F USFS VEGETATION PLOT # 0
ELEVATION 5149.10 FT.
SLOPE 1.50:1
ASPECT 168
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-04-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27-81	114.0000	0.4526	0.7731
LOST	256.0000	-2.0000	0.0000
LOST	91.0000	-2.0000	0.0000
LOST	255.0000	-2.0000	0.0000
LOST	144.0000	-2.0000	0.0000
TOTAL AVERAGE YIELD OF SEDIMENT			0.7731
AVERAGE YIELD DURING SPRING COLLECTIONS			0.0000
AVERAGE YIELD DURING FALL COLLECTIONS			0.7731

TREATMENT SET NUMBER 4-R2 34
COLLECTOR NUMBER 67+39/ 30F USFS VEGETATION PLOT # 0
ELEVATION 5149.10 FT.
SLOPE 1.50:1
ASPECT 150
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT LAYER PLACED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-09-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	109.0000	0.7394	1.3210
06-09-82	256.0000	7.0660	5.3749
09-11-82	91.0000	3.9610	8.4762
05-24-83	255.0000	1.9460	1.4861
10-15-83	144.0000	12.2900	16.6198
TOTAL AVERAGE YIELD OF SEDIMENT			6.6556
AVERAGE YIELD DURING SPRING COLLECTIONS			3.4305
AVERAGE YIELD DURING FALL COLLECTIONS			8.8057

TREATMENT SET NUMBER 3-R2
COLLECTOR NUMBER 69+26/ 44F USFS VEGETATION PLOT #14
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 131
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STRAW + TACK + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-09-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	109.0000	0.1834	0.3277
06-09-82	256.0000	0.4140	0.3149
09-11-82	91.0000	0.4260	0.9116
05-24-83	255.0000	0.2749	0.2099
10-15-83	144.0000	1.1780	1.5930
TOTAL AVERAGE YIELD OF SEDIMENT			0.6714
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2624
AVERAGE YIELD DURING FALL COLLECTIONS			0.9441

TREATMENT SET NUMBER 3-R2
COLLECTOR NUMBER 69+26/ 34F USFS VEGETATION PLOT #15
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 137
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STRAW + TACK + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-09-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	109.0000	0.1195	0.2135
06-09-82	256.0000	0.1010	0.0768
09-11-82	91.0000	0.0110	0.0235
06-21-83	255.0000	0.1100	0.0840
10-15-83	144.0000	2.2270	3.0116
TOTAL AVERAGE YIELD OF SEDIMENT			0.6819
AVERAGE YIELD DURING SPRING COLLECTIONS			0.0804
AVERAGE YIELD DURING FALL COLLECTIONS			1.0829

TREATMENT SET NUMBER 3-R2 37
COLLECTOR NUMBER 69+26/ 24F USFS VEGETATION PLOT #16
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 140
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-10-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	108.0000	0.5805	1.0467
06-09-82	256.0000	1.7620	1.3403
09-11-82	91.0000	1.3730	2.9381
05-24-83	255.0000	1.0109	0.7720
10-15-83	144.0000	4.1100	5.5580
TOTAL AVERAGE YIELD OF SEDIMENT			2.3310
AVERAGE YIELD DURING SPRING COLLECTIONS			1.0561
AVERAGE YIELD DURING FALL COLLECTIONS			3.1809

TREATMENT SET NUMBER 3-R2 38
COLLECTOR NUMBER 69+26/ 12F USFS VEGETATION PLOT #17
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 143
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-10-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	108.0000	0.3997	0.7207
06-09-82	256.0000	0.7048	0.5361
09-11-82	91.0000	0.2440	0.5221
05-24-83	255.0000	0.1674	0.1278
10-15-83	144.0000	0.2670	0.3611
TOTAL AVERAGE YIELD OF SEDIMENT			0.4536
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3320
AVERAGE YIELD DURING FALL COLLECTIONS			0.5346

TREATMENT SET NUMBER 3-R2
COLLECTOR NUMBER 69+26/ 1F USFS VEGETATION PLOT #17
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 150
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT POLYMER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-10-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	108.0000	0.9251	1.6680
06-09-82	256.0000	0.8650	0.6580
09-11-82	91.0000	6.1590	13.1797
05-24-83	255.0000	0.5953	0.4546
10-15-83	144.0000	0.5740	0.7762
TOTAL AVERAGE YIELD OF SEDIMENT			3.3473
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5563
AVERAGE YIELD DURING FALL COLLECTIONS			5.2080

TREATMENT SET NUMBER 3-R2
COLLECTOR NUMBER 69+26/-12F USFS VEGETATION PLOT #18
ELEVATION 5165.57 FT.
SLOPE 1.50:1
ASPECT 154
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STRAW + CRIMP + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-09-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	109.0000	0.2066	0.3691
06-09-82	256.0000	0.3340	0.2541
09-11-82	91.0000	0.0820	0.1755
05-24-83	255.0000	0.2726	0.2082
10-15-83	144.0000	0.3000	0.4057
TOTAL AVERAGE YIELD OF SEDIMENT			0.2825
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2311
AVERAGE YIELD DURING FALL COLLECTIONS			0.3168

TREATMENT SET NUMBER 4 41
COLLECTOR NUMBER 73+05/144F USFS VEGETATION PLOT #19
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 70
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	89.2400	98.1803
09-27 81	66.0000	11.1208	32.8118
06-09-82	256.0000	1.5920	1.2110
09-11-82	91.0000	2.0160	4.3141
05-25-83	256.0000	4.1360	3.1461
10-15-83	143.0000	12.5780	17.1283
TOTAL AVERAGE YIELD OF SEDIMENT			26.1319
AVERAGE YIELD DURING SPRING COLLECTIONS			34.1791
AVERAGE YIELD DURING FALL COLLECTIONS			18.0847

TREATMENT SET NUMBER 4 42
COLLECTOR NUMBER 73+05/ 72F USFS VEGETATION PLOT # 0
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 68
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	173.0000	1.0250	1.1538
09-27 81	67.0000	1.7228	5.0072
06-09-82	256.0000	0.6980	0.5309
09-11-82	91.0000	1.3350	2.8568
05-25-83	256.0000	0.7457	0.5672
10-15-83	143.0000	3.1800	4.3304
TOTAL AVERAGE YIELD OF SEDIMENT			2.4077
AVERAGE YIELD DURING SPRING COLLECTIONS			0.7506
AVERAGE YIELD DURING FALL COLLECTIONS			4.0648

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 73+05/ 63F USFS VEGETATION PLOT # 0
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 68
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	173.0000	0.7560	0.8510
09-27 81	67.0000	0.6851	1.9912
06-09-82	256.0000	0.3320	0.2525
09-11-82	91.0000	0.9240	1.9773
05-25-83	256.0000	0.4690	0.3568
10-15-83	143.0000	5.1430	7.0036
TOTAL AVERAGE YIELD OF SEDIMENT			2.0721
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4868
AVERAGE YIELD DURING FALL COLLECTIONS			3.6573

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 73+05/ 51F USFS VEGETATION PLOT # 0
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 67
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	65.3080	71.8507
09-27 81	67.0000	16.6004	48.2482
06-09-82	256.0000	2.1820	1.6598
09-11-82	91.0000	5.4730	11.7118
05-25-83	256.0000	2.3530	1.7899
10-15-83	143.0000	31.8700	43.3994
TOTAL AVERAGE YIELD OF SEDIMENT			29.7766
AVERAGE YIELD DURING SPRING COLLECTIONS			25.1001
AVERAGE YIELD DURING FALL COLLECTIONS			34.4531

TREATMENT SET NUMBER 4 45
COLLECTOR NUMBER 73+05/ 39F USFS VEGETATION PLOT # 0
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 67
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	91.3460	100.4973
09-27 81	67.0000	23.5995	68.5908
06-09-82	256.0000	2.3720	1.8043
09-11-82	91.0000	5.5000	11.7695
05-25-83	256.0000	3.8440	2.9240
10-15-83	143.0000	1.0360	1.4108
TOTAL AVERAGE YIELD OF SEDIMENT			31.1661
AVERAGE YIELD DURING SPRING COLLECTIONS			35.0752
AVERAGE YIELD DURING FALL COLLECTIONS			27.2570

TREATMENT SET NUMBER 4 46
COLLECTOR NUMBER 73+05/ 18F USFS VEGETATION PLOT # 0
ELEVATION 5166.27 FT.
SLOPE 1.30:1
ASPECT 67
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT SURFACE ROLLING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	177.0000	149.8480	164.8601
09-27 81	67.0000	25.5097	74.1427
06-09-82	256.0000	3.5450	2.6966
09-11-82	91.0000	4.0000	8.5597
05-25-83	256.0000	2.6740	2.0340
10-15-83	143.0000	13.4500	18.3157
TOTAL AVERAGE YIELD OF SEDIMENT			45.1014
AVERAGE YIELD DURING SPRING COLLECTIONS			56.5302
AVERAGE YIELD DURING FALL COLLECTIONS			33.6727

TREATMENT SET NUMBER 1-R1
COLLECTOR NUMBER 75+76/ 58F USFS VEGETATION PLOT #20
ELEVATION 5189.98 FT.
SLOPE 1.50:1
ASPECT 210
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT SPRIGGING + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-24-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	-1.0000	-1.0000	0.0000
09-27 81	94.0000	0.3869	0.8015
06-09-82	256.0000	0.9700	0.7379
09-11-82	91.0000	0.6030	1.2904
05-25-83	256.0000	0.7879	0.5993
LOST	143.0000	0.0000	0.0000

TOTAL AVERAGE YIELD OF SEDIMENT 0.6858
AVERAGE YIELD DURING SPRING COLLECTIONS 0.6686
AVERAGE YIELD DURING FALL COLLECTIONS 0.6973

TREATMENT SET NUMBER 1-R1
COLLECTOR NUMBER 75+76/ 24F USFS VEGETATION PLOT #21
ELEVATION 5189.98 FT.
SLOPE 1.50:1
ASPECT 225
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT SPRIGGING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-24-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	94.0000	0.3857	0.7990
NO DATA	256.0000	-2.0000	0.0000
NO DATA	91.0000	-2.0000	0.0000
NO DATA	256.0000	-2.0000	0.0000
NO DATA	144.0000	-2.0000	0.0000

TOTAL AVERAGE YIELD OF SEDIMENT 0.7990
AVERAGE YIELD DURING SPRING COLLECTIONS 0.0000
AVERAGE YIELD DURING FALL COLLECTIONS 0.7990

TREATMENT SET NUMBER 1-R1 49
COLLECTOR NUMBER 76+82/ 76F USFS VEGETATION PLOT #24
ELEVATION 5196.86 FT.
SLOPE 1.50:1
ASPECT 134
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	173.0000	120.1690	135.2646
09-27 81	79.0000	61.3392	151.1991
NO DATA	256.0000	-2.0000	0.0000
NO DATA	91.0000	-2.0000	0.0000
NO DATA	256.0000	-2.0000	0.0000
NO DATA	144.0000	-2.0000	0.0000
TOTAL AVERAGE YIELD OF SEDIMENT			143.2318
AVERAGE YIELD DURING SPRING COLLECTIONS			135.2646
AVERAGE YIELD DURING FALL COLLECTIONS			151.1991

TREATMENT SET NUMBER 1-R1 50
COLLECTOR NUMBER 76+82/-12F USFS VEGETATION PLOT #39
ELEVATION 5196.86 FT.
SLOPE 1.50:1
ASPECT 134
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	172.0000	114.6330	129.7834
09-27 81	79.0000	40.0060	98.6134
06-09-82	256.0000	5.4500	4.1457
09-11-82	91.0000	6.2020	13.2718
05-25-83	256.0000	0.3591	0.2732
10-15-83	143.0000	13.2600	18.0570
TOTAL AVERAGE YIELD OF SEDIMENT			44.0240
AVERAGE YIELD DURING SPRING COLLECTIONS			44.7341
AVERAGE YIELD DURING FALL COLLECTIONS			43.3140

TREATMENT SET NUMBER 1-R1
COLLECTOR NUMBER 76+86/117F USFS VEGETATION PLOT #22
ELEVATION 5196.86 FT.
SLOPE 1.50:1
ASPECT 214
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	173.0000	38.7160	43.5795
09-27 81	67.0000	0.8337	2.4231
NO DATA	256.0000	-2.0000	0.0000
NO DATA	91.0000	-2.0000	0.0000
NO DATA	283.0000	-2.0000	0.0000
NO DATA	116.0000	-2.0000	0.0000
TOTAL AVERAGE YIELD OF SEDIMENT			23.0013
AVERAGE YIELD DURING SPRING COLLECTIONS			43.5795
AVERAGE YIELD DURING FALL COLLECTIONS			2.4231

TREATMENT SET NUMBER 1-R1
COLLECTOR NUMBER 76+86/ 96F USFS VEGETATION PLOT #23
ELEVATION 5196.86 FT.
SLOPE 1.50:1
ASPECT 197
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	173.0000	11.0890	12.4820
09-27 81	67.0000	0.3558	1.0341
NO DATA	256.0000	-2.0000	0.0000
NO DATA	91.0000	-2.0000	0.0000
NO DATA	283.0000	-2.0000	0.0000
NO DATA	116.0000	-2.0000	0.0000
TOTAL AVERAGE YIELD OF SEDIMENT			6.7581
AVERAGE YIELD DURING SPRING COLLECTIONS			12.4820
AVERAGE YIELD DURING FALL COLLECTIONS			1.0341

TREATMENT SET NUMBER 1-R2 53
COLLECTOR NUMBER 81+01/135F USFS VEGETATION PLOT #28
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 96
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT SPRIGGING
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-23-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	0.0000	-1.0000	0.0000
09-27 81	126.0000	0.4469	0.6907
06-09-82	255.0000	0.7650	0.5842
09-11-82	91.0000	2.6570	5.6858
05-25-83	256.0000	0.6954	0.5290
10-15-83	143.0000	2.1100	2.8733
TOTAL AVERAGE YIELD OF SEDIMENT			2.0726
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5566
AVERAGE YIELD DURING FALL COLLECTIONS			3.0833

TREATMENT SET NUMBER 1-R2 54
COLLECTOR NUMBER 81+01/117F USFS VEGETATION PLOT #29
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 75
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT SPRIGGING + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-18-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-19-81	0.0000	-1.0000	0.0000
09-27 81	100.0000	0.1550	0.3018
06-09-82	256.0000	0.5330	0.4054
09-11-82	91.0000	1.3300	2.8461
05-25-83	256.0000	0.4454	0.3388
10-15-83	143.0000	1.6400	2.2333
TOTAL AVERAGE YIELD OF SEDIMENT			1.2251
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3721
AVERAGE YIELD DURING FALL COLLECTIONS			1.7937

TREATMENT SET NUMBER 1-R2
COLLECTOR NUMBER 81+01/ 97F USFS VEGETATION PLOT #30
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 65
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED + TRANSPLANT
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-18-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	100.0000	0.1846	0.3595
06-09-82	256.0000	0.4190	0.3187
09-11-82	91.0000	1.6230	3.4731
05-25-83	256.0000	0.7604	0.5784
10-15-83	143.0000	1.8500	2.5193
TOTAL AVERAGE YIELD OF SEDIMENT			1.4498
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4486
AVERAGE YIELD DURING FALL COLLECTIONS			2.1173

TREATMENT SET NUMBER 1-R2
COLLECTOR NUMBER 81+01/ 77F USFS VEGETATION PLOT # 0
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 58
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER + TRANSPLA
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	101.0000	0.1451	0.2798
06-09-82	256.0000	0.4700	0.3575
09-11-82	91.0000	0.8180	1.7504
05-25-83	256.0000	0.4094	0.3114
10-15-83	143.0000	1.3300	1.8111
TOTAL AVERAGE YIELD OF SEDIMENT			0.9021
AVERAGE YIELD DURING SPRING COLLECTIONS			0.3345
AVERAGE YIELD DURING FALL COLLECTIONS			1.2805

TREATMENT SET NUMBER 1-R2 57
COLLECTOR NUMBER 81+01/ 62F USFS VEGETATION PLOT # 0
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 40
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT STEEP SLOPE PLANTER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	101.0000	0.0724	0.1396
06-09-82	256.0000	0.2060	0.1567
09-11-82	91.0000	0.1030	0.2204
05-25-83	256.0000	1.3880	1.0558
10-15-83	143.0000	0.5280	0.7190
TOTAL AVERAGE YIELD OF SEDIMENT			0.4583
AVERAGE YIELD DURING SPRING COLLECTIONS			0.6063
AVERAGE YIELD DURING FALL COLLECTIONS			0.3597

TREATMENT SET NUMBER 1-R2 58
COLLECTOR NUMBER 81+01/ 46F USFS VEGETATION PLOT # 0
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 41
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT HYDROSEED
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	101.0000	0.2183	0.4209
06-09-82	256.0000	0.3780	0.2875
09-11-82	91.0000	1.0240	2.1913
05-25-83	256.0000	0.2957	0.2249
10-15-83	143.0000	0.8150	1.1098
TOTAL AVERAGE YIELD OF SEDIMENT			0.8469
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2562
AVERAGE YIELD DURING FALL COLLECTIONS			1.2407

TREATMENT SET NUMBER 1-R2
COLLECTOR NUMBER 81+01/ 33F USFS VEGETATION PLOT # 0
ELEVATION 5227.28 FT.
SLOPE 1.50:1
ASPECT 50
CONSTRUCTION METHOD LAYER PLACED
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 06-17-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	101.0000	0.9885	1.9059
06-09-82	256.0000	0.3850	0.2929
09-11-82	91.0000	0.5400	1.1556
05-25-83	256.0000	0.8385	0.6378
10-15-83	143.0000	8.9100	12.1333
TOTAL AVERAGE YIELD OF SEDIMENT			3.2251
AVERAGE YIELD DURING SPRING COLLECTIONS			0.4653
AVERAGE YIELD DURING FALL COLLECTIONS			5.0649

TREATMENT SET NUMBER 2-R2
COLLECTOR NUMBER 122+71/ 96F USFS VEGETATION PLOT # 0
ELEVATION 5521.32 FT.
SLOPE 1.50:1
ASPECT 332
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROL
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-13-81	172.0000	0.8450	0.9567
09-27 81	136.0000	0.3479	0.4981
NO DATA	256.0000	-2.0000	0.0000
09-11-82	91.0000	1.8800	4.0230
05-25-83	256.0000	0.9468	0.7202
10-15-83	143.0000	7.8800	10.7307
TOTAL AVERAGE YIELD OF SEDIMENT			3.3858
AVERAGE YIELD DURING SPRING COLLECTIONS			0.8384
AVERAGE YIELD DURING FALL COLLECTIONS			5.0840

TREATMENT SET NUMBER 2-R2 61
COLLECTOR NUMBER 122+71/ 81F USFS VEGETATION PLOT # 0
ELEVATION 5521.32 FT.
SLOPE 1.50:1
ASPECT 332
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT POLYMER
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 11-21-80

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
05-13-81	172.0000	1.6210	1.8352
09-27 81	79.0000	2.3308	5.7453
NO DATA	256.0000	0.0000	0.0000
09-11-82	91.0000	5.9580	12.7496
05-24-83	256.0000	1.6120	1.2262
10-15-83	143.0000	10.1700	13.8491
TOTAL AVERAGE YIELD OF SEDIMENT			5.9009
AVERAGE YIELD DURING SPRING COLLECTIONS			1.0205
AVERAGE YIELD DURING FALL COLLECTIONS			10.7814

TREATMENT SET NUMBER 2-R2 62
COLLECTOR NUMBER 122+71/ 65F USFS VEGETATION PLOT # 0
ELEVATION 5521.32 FT.
SLOPE 1.50:1
ASPECT 332
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + CRIMP
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-29-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	58.0000	0.1481	0.4972
06-09-82	256.0000	0.2730	0.2077
09-11-82	91.0000	0.4272	0.9142
05-25-83	256.0000	0.4505	0.3427
10-15-83	143.0000	0.8600	1.1711
TOTAL AVERAGE YIELD OF SEDIMENT			0.6266
AVERAGE YIELD DURING SPRING COLLECTIONS			0.2752
AVERAGE YIELD DURING FALL COLLECTIONS			0.8608

TREATMENT SET NUMBER 2-R2
COLLECTOR NUMBER 122+71/ 51F USFS VEGETATION PLOT # 0
ELEVATION 5521.32 FT.
SLOPE 1.50:1
ASPECT 325
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT HYDROMULCH
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-29-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	58.0000	0.5604	1.8815
06-09-82	256.0000	0.5890	0.4480
09-11-82	91.0000	1.5690	3.3575
05-25-83	256.0000	1.5430	1.1737
10-15-83	143.0000	4.5500	6.1960
TOTAL AVERAGE YIELD OF SEDIMENT			2.6114
AVERAGE YIELD DURING SPRING COLLECTIONS			0.8109
AVERAGE YIELD DURING FALL COLLECTIONS			3.8117

TREATMENT SET NUMBER 2-R2
COLLECTOR NUMBER 125+92/ 30F USFS VEGETATION PLOT # 0
ELEVATION 5512.67 FT.
SLOPE 1.50:1
ASPECT 330
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT STRAW + NET
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-30-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	57.0000	0.4199	1.4345
06-09-82	256.0000	0.5800	0.4412
09-11-82	91.0000	0.6650	1.4230
05-25-83	256.0000	0.8234	0.6263
10-15-83	143.0000	0.7580	1.0322
TOTAL AVERAGE YIELD OF SEDIMENT			0.9915
AVERAGE YIELD DURING SPRING COLLECTIONS			0.5338
AVERAGE YIELD DURING FALL COLLECTIONS			1.2966

TREATMENT SET NUMBER 4 65
COLLECTOR NUMBER 130+50/ 50F USFS VEGETATION PLOT # 0
ELEVATION 5520.63 FT.
SLOPE 1.30:1
ASPECT 251
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-02-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	86.0000	2.8573	6.4699
06-09-82	256.0000	1.9610	1.4917
09-11-82	91.0000	0.7320	1.5664
05-25-83	256.0000	0.9960	0.7576
10-15-83	143.0000	2.5500	3.4725
TOTAL AVERAGE YIELD OF SEDIMENT			2.7516
AVERAGE YIELD DURING SPRING COLLECTIONS			1.1247
AVERAGE YIELD DURING FALL COLLECTIONS			3.8363

TREATMENT SET NUMBER 4 66
COLLECTOR NUMBER 130+50/ 37F USFS VEGETATION PLOT # 0
ELEVATION 5520.63 FT.
SLOPE 1.30:1
ASPECT 251
CONSTRUCTION METHOD CONTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-01-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N. BUILT	0.0000	-1.0000	0.0000
09-27 81	87.0000	3.4138	7.6411
06-09-82	256.0000	2.3970	1.8233
09-11-82	91.0000	1.0070	2.1549
05-25-83	256.0000	0.9830	0.7477
10-15-83	143.0000	3.4400	4.6845
TOTAL AVERAGE YIELD OF SEDIMENT			3.4103
AVERAGE YIELD DURING SPRING COLLECTIONS			1.2855
AVERAGE YIELD DURING FALL COLLECTIONS			4.8268

TREATMENT SET NUMBER 4
COLLECTOR NUMBER 130+50/ 24F USFS VEGETATION PLOT # 0 67
ELEVATION 5520.63 FT.
SLOPE 1.30:1
ASPECT 251
CONSTRUCTION METHOD COTROLLED COMPACTION
SLOPE SURFACE TREATMENT CONTROLLED COMPACTION
AREA 90.00 FT**2
DATE OF COLLECTOR INSTALLATION 07-01-81

DATE OF COLLECTION	TIME INTERVAL IN DAYS	DRY WEIGHT IN KILOGRAMS	SEDIMENT YIELD IN TONS PER ACRE YEAR
N BUILT	0.0000	-1.0000	0.0000
09-27 81	87.0000	1.3233	2.9619
06-09-82	256.0000	1.7330	1.3182
09-11-82	91.0000	1.4370	3.0751
05-25-83	256.0000	1.4740	1.1212
10-15-83	143.0000	2.5100	3.4180
TOTAL AVERAGE YIELD OF SEDIMENT			2.3789
AVERAGE YIELD DURING SPRING COLLECTIONS			1.2197
AVERAGE YIELD DURING FALL COLLECTIONS			3.1517

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